



## **CITY OF MORGAN HILL**

***DRAFT REPORT:***

### **Comprehensive Water & Wastewater Rate Study**

**November 2015**

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# TABLE OF CONTENTS

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<b>SECTION 1. PURPOSE AND OVERVIEW OF THE STUDY.....</b>	<b>1</b>
PURPOSE.....	1
CITY OF MORGAN HILL BACKGROUND .....	1
OVERVIEW OF THE STUDY .....	2
RATE STUDY METHODOLOGY .....	3
<b>SECTION 2. WATER RATE STUDY .....</b>	<b>6</b>
A. KEY WATER RATE STUDY ISSUES.....	6
B. WATER UTILITY REVENUE REQUIREMENTS .....	6
C. CURRENT VS. PROPOSED WATER RATES .....	9
<b>SECTION 3. WASTEWATER RATE STUDY .....</b>	<b>15</b>
A. KEY WASTEWATER RATE STUDY ISSUES.....	15
B. WASTEWATER UTILITY REVENUE REQUIREMENTS .....	15
C. CURRENT VS. PROPOSED WASTEWATER RATES .....	17
<b>SECTION 4. ZONAL ELEVATION SURCHARGES .....</b>	<b>21</b>
OVERVIEW OF ZONAL ELEVATION SURCHARGES.....	21
<b>SECTION 5. RECOMMENDATIONS AND NEXT STEPS .....</b>	<b>23</b>
CONSULTANT RECOMMENDATIONS.....	23
NEXT STEPS.....	23
PRINCIPAL ASSUMPTIONS AND CONSIDERATIONS.....	24
<b>TECHNICAL APPENDICES .....</b>	<b>25</b>
APPENDIX A - ALTERNATIVE #1 WATER RATE ANALYSIS	
APPENDIX B - ALTERNATIVE #2 WATER RATE ANALYSIS	
APPENDIX C - WASTEWATER RATE ANALYSIS	
APPENDIX D - ZONAL ELEVATION CHARGES ANALYSIS	

# SECTION 1. PURPOSE AND OVERVIEW OF THE STUDY

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## PURPOSE

The City of Morgan Hill (“City”) retained NBS in June 2015 to conduct comprehensive water and wastewater rate studies for a number of reasons, including meeting long-term revenue requirements, ensuring revenue stability in water rates, providing adequate funding for capital improvements, and ensuring rates comply with applicable laws, including Proposition 218. The rates developed in this study meet basic Proposition 218 (Prop 218) requirements and were developed based on industry standards, including recent court rulings, such as the California Appellate Court ruling in the San Juan Capistrano case<sup>1</sup> affecting how the cost basis for water rates must be established. This report is provided with the intent of assisting the City to maintain transparent communications with its residents and businesses.

In developing proposed new water and wastewater rates, NBS worked cooperatively with the City staff in developing study rate alternatives and results. Review of study results and recommendations included a workshop and subsequent meetings with the City Council. The Council reviewed recommendations and provided NBS and City Staff with direction and feedback. Based on input from the City Council and City Staff, NBS has recommended the water and wastewater rates summarized in this report.

## CITY OF MORGAN HILL BACKGROUND

### *Water Utility*

The City of Morgan Hill is general law city with a council-manager form of government, located in southern Santa Clara Valley, approximately 12 miles south of San Jose, 10 miles north of Gilroy, and 15 miles inland from the Pacific Coast. The Valley is approximately 4 miles wide and is surrounded by the Santa Cruz mountain range to the west, and the Diablo mountain range to the east.

The City of Morgan Hill provides water service to approximately 13,500 metered customers inside and outside the city limits. The majority (about 86%) of the water utility’s customers are residential (single and multi-family). Most recent records indicate these residential households use approximately 70% of total water sold. The remaining customers and water usage are for businesses, commercial, industrial, government, institutional, and landscapes.

The City’s municipal water source is 100% from ground water. Sustaining the groundwater supply is dependent upon the overall groundwater management program administered by the Santa Clara Valley Water District (SCVWD). SCVWD imports water from the Sacramento/San Joaquin Delta through a series of channels, reservoirs, pipes and pumps and re-charges the groundwater table by pumping water into strategically located re-charge basins. The water system consists of 17 wells, 10 booster stations, 12 storage tanks, 1,927 fire hydrants, and over 180 miles of water pipeline. Water wells in Morgan Hill range in depth from 220 feet to 530 feet deep.

### *Wastewater Utility*

The Wastewater Operations Division protects public health and safety by ensuring that wastewater is properly collected and transported to the South County Regional Wastewater Authority (SCRWA) treatment facility in Gilroy, CA which is owned and operated under a Joint Powers Agreement (JPA) with the Cities of Morgan Hill and Gilroy.

The City of Morgan Hill owns, and therefore funds, 41.9% of the capacity at the SCRWA wastewater treatment facility. The City’s share of SCRWA’s annual operations and maintenance costs is based on the

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<sup>1</sup> Capistrano Taxpayers Association, Inc. v. City of San Juan Capistrano, Opinion G048969, Super. Ct. No 30-2012-00594579, Filed April 20, 2015.

actual prior year annual flow as recorded by a master sewer flow meter located in the sewer trunk line at the southern end of Morgan Hill.

The City owns and operates 900,000 feet of sewer pipelines and 14 lift stations. Residential and commercial customers served by the city's wastewater division are connected to the City's wastewater collection system through private sewer laterals<sup>2</sup>, which are not part of the public system, and therefore the City does not maintain these facilities.

## OVERVIEW OF THE STUDY

**Key Issues Addressed** – In addition to ensuring water and wastewater rates collect sufficient revenue to meet the annual operating and capital improvement plans, there are a number of key issues that were specifically addressed in this study, including:

- **Statewide Conservation** – The State of California has experienced recent drought-related cutbacks<sup>3</sup> (25% Statewide) and the City of Morgan Hill was mandated to reduce water consumption by 28% beginning in April 2015. The City has set their conservation target to 30%, and customers are exceeding the conservation target<sup>4</sup>. Current and projected future consumption levels were closely evaluated in this study.
- **Overall Rate Design** – In the context of drought-related conservation, fairness, equity and the impacts of rate increases on customer bills are significant concerns to the City Council and staff. Therefore, the overall rate design, including the amount of revenue collected from fixed monthly charges vs. volumetric rates, were carefully examined; numerous rate alternatives were evaluated prior to arriving at the proposed rates.
- **Financial Planning** – The longer-range financial plans for the water and wastewater utilities were closely examined and adjusted to best meet annual operating and broader capital improvement costs.

**Recommendations** – NBS recommends the City take the following actions:

- Adopt the long-range financial plan that NBS developed, including the projected revenues, expenditures and annual net revenue requirements.
- Adopt recommended reserve fund targets.
- Provide the normal legal review of the recommended rates by a qualified attorney.
- Consider adopting zonal surcharges, which allocate the additional costs of pump stations and energy costs that customers not located in these elevation zones do not require.
- Adopt the water and wastewater service rates summarized in this report.
- Proceed with Proposition 218 noticing requirements necessary for legal adoption and implementation of the proposed rates.

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<sup>2</sup> A private sewer lateral extends from the building being served to the city's sewer main.

<sup>3</sup> State Water Resources Control Board, Resolution 2015-0032.

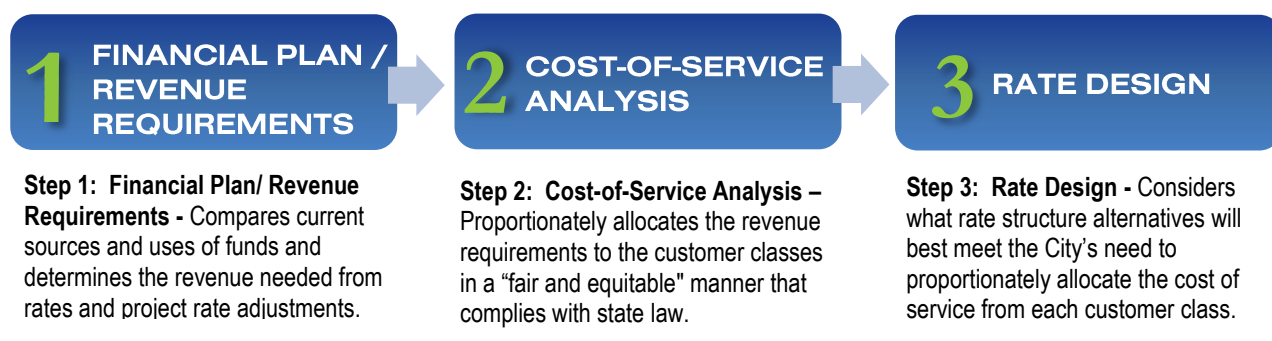
<sup>4</sup> As of the October 2015 State Water Resources Control Board Urban Water Supplier Data report.

## RATE STUDY METHODOLOGY

**Components of the Rate Study Methodology** – A comprehensive utility rate study typically encompasses three major components: (1) preparation of a financial plan which identifies the net revenue requirements for the utility; (2) analysis of the cost to serve each customer class, and; (3) the rate structure design.

These steps are shown in **Figure 1** and are intended to follow industry standards and reflect the fundamental principles of cost-of-service rate making embodied in the American Water Works Association (AWWA) Principles of Water Rates, Fees, and Charges<sup>5</sup>, also referred to as the Manual M1. These steps address general requirements for equity and fairness. They also address requirements under California Constitution article XIII D, Section 6 (commonly referred to as Proposition 218) that rates not exceed the cost of providing the service and be proportionate to the cost of service for all customers. In terms of the chronology of the study, these three steps represent the order they were performed in this study.

**Figure 1. PRIMARY COMPONENTS OF A RATE STUDY**



As a part of this rate study, NBS projected revenues, expenditures, developed net revenue requirements, performed cost-of-service rate analyses, and prepared new water and wastewater rates. Rate increases -- or more accurately, increases in the total revenue collected from water and wastewater rates -- are recommended for both the water and wastewater utilities. The following sections in this report present an overview of the methodologies, assumptions, and data used along with the financial plans and rates developed during this study.

**Rate Design Criteria** – Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been documented in a number of rate-setting manuals, such as the AWWA Manual M1. The foundation for evaluating rate structures is generally credited to James C. Bonbright in the *Principles of Public Utility Rates*<sup>6</sup> which outlines pricing policies, theories, and economic concepts along with various rate designs. The following is a simplified list of the attributes of a sound rate structure:

- Rates should be easy to understand from the customer’s perspective.
- Rates should be easy to administer from the utility’s perspective.
- Rates should promote the efficient allocation of the resource.

<sup>5</sup> *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1*, AWWA, sixth edition, 2012.

<sup>6</sup> James C. Bonbright; Albert L. Danielsen and David R. Kamerschen, *Principles of Public Utility Rates*, (Arlington, VA: Public Utilities Report, Inc., Second Edition, 1988), p. 383-384.

- Rates should be equitable and non-discriminating (i.e., cost based).
- There should be continuity in the rate making philosophy over time.
- Addressing other utility policies (e.g., encouraging conservation & economic development).
- Rates should consider the customer's ability to pay.
- Rates should provide month-to-month and year-to-year revenue stability.

The following section covers basic rate design criteria that NBS and City staff considered as a part of their review of the rate structure alternatives.

**Rate Structure Issues** – The starting point in considering rate structures is the relationship between fixed costs and variable costs. Fixed costs typically do not vary with the amount of water consumed. Debt service and City personnel are examples of a fixed cost. In contrast, variable costs such as the cost of purchased water, chemicals and electricity tend to change with the quantity of water sold. The vast majority of rate structures contain a fixed or minimum charge in combination with a volumetric charge.

The City's rate design objectives are not necessarily the same as those in other communities. For example, some communities, particularly those with very expensive purchased water costs, place a very high priority on conservation-oriented rates. Other communities, particularly those who have many low-income customers, may want to implement low-income subsidies. AWWA's Manual M1 makes a relevant note regarding these other priorities, stating that "other community objectives" can and should be considered in designing rate structures:

"...the costs of water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers. However ... other considerations may be equally or more important in determining rates and charges and may better reflect emerging objectives of the utility or the community it serves."

*and*

"...pricing policies may support a community's social, economic, political, and environmental concerns."

## Key Financial Assumptions

Following are the key assumptions used in the water and wastewater rate analyses:

- **Funding of Capital Projects** – After the City's extensive review of the planned capital improvement projects (CIP) and funding requirements, the City has decided that the water and wastewater utility will fund the currently planned CIP, as shown in Appendices A, B and C to this report.
- **Reserve Targets** – Target reserves for operations and maintenance (O&M) and capital system replacement, which essentially follow industry standards for utility fund management, are set at the following levels for the water and wastewater utilities:
  - ✓ Operating Reserve – 90-days of O&M expenses.
  - ✓ System Replacement Reserve – approximately 3.0% of net assets.
  - ✓ Rate Stabilization Reserve – equal to 20% of estimated rate revenue.
- **Inflation and Growth Projections:**
  - ✓ Customer growth is based on an additional 250-435 equivalent residential units per year, for each utility. This translates to approximately 2.0% average annual growth rate over the next five years.
  - ✓ General costs (such as professional and contractual services, fuel, vehicle maintenance, etc.) are inflated at 3% annually.

- ✓ Operating expenses are inflated at a rate of approximately 3% - 4% annually, and include chemicals purchased, energy, and internal transfers.
- ✓ Labor costs are inflated at 5% annually and include health and retirement benefits for both utilities.
- ✓ No inflation is added to other budget items, such as late fee revenue, lease income, and miscellaneous fees.

The next two sections discuss the water and wastewater rate studies.



## SECTION 2. WATER RATE STUDY

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### A. KEY WATER RATE STUDY ISSUES

The water rate analysis was undertaken with a few specific objectives, including:

- Generating sufficient revenue to meet projected funding requirements.
- Increasing the percent of water rate revenue collected from fixed monthly charges vs. volumetric rates to improve revenue stability in the water utility. Currently the City's water rates collect approximately 19% of rate revenue from fixed charges and 81% from volumetric rates. Particularly in light of the City's significant conservation of approximately 40% this year, the City needs to ensure the water utility is collecting adequate revenues; increasing the percentage of rate revenue collected from fixed charges helps achieve this objective.
- Basing water fixed charges on meter size and separating Single- and Multi-Family Residential customers from Non-Residential customers. This helps improve overall equity and better reflects the cost-of service among customer classes in the water utility.

NBS developed multiple water rate alternatives over the course of this study; all were developed using industry standards and cost-of-service principles. The rate alternative recommended in this report reflects the input from City staff and the City Council.

The fixed and volume-based charges calculated were based on the net revenue requirements, number of customer accounts, water consumption, and other City-provided information. The following are the basic components included in this analysis:

- **Developing Unit Costs:** The water revenue requirements were "functionalized" into five categories: (1) customer service costs; (2) fixed capacity costs; (3) variable (or volume-based) costs; (4) fire protection costs; and (5) zonal-specific costs. Unit costs for each of these functions were determined based on allocations to functional areas, water consumption, peaking factors, number of accounts by meter size, and customer class.
- **Determining Revenue Requirements by Customer Class:** The total revenue that should be collected from each customer class was determined using the unit costs and the total units belonging to each class. For example, customer costs are allocated based on number of meters, while volume-related costs are allocated based on the water consumption for each class. Once the costs are allocated and the revenue requirement for each customer class is determined, collecting these revenue requirements from each customer class is addressed in the rate design task.
- **Rate Design and Fixed vs. Variable Costs:** In all rate design alternatives, the revenue requirements for each customer class are collected from both fixed service charges and volumetric (commodity) charges. The cost of service analysis indicated that approximately 73% of the City's costs are fixed and 27% are variable. Although state regulatory agencies, such as the California Urban Water Conservation Council, recommend water utilities to collect at least 70% of rate revenue from volumetric rates, many utilities prefer to collect less than 70% from volumetric rates. As a compromise, NBS recommends the City adopt the rates proposed in this report where 50% of revenue is collected from fixed charges and 50% from volumetric charges; this better represents the utility's true cost structure and improves revenue stability.

### B. WATER UTILITY REVENUE REQUIREMENTS

It is important for municipal utilities to maintain reasonable reserves in order to handle minor emergencies, fund working capital, maintain a good credit rating, and generally follow sound financial management practices. Rate increases are governed by the need to meet operating and capital costs, maintain adequate debt coverage, and maintain sufficient reserve funds. The current state of the City's water utility, with regard to these objectives is as follows:



- **Meeting Net Revenue Requirements:** The City's water utility is currently running a structural deficit in FY 2015/16, which would increase significantly by FY 2019/20 if no rate increases are implemented. For Fiscal Year 2015/16 through 2019/20, the projected net revenue requirement (i.e., total annual expenses plus rate-funded capital costs, less non-rate revenues) is approximately \$8.7 million to \$11.4 million. Recommended annual rate increases of 9.0% in FY 2015/16 and 7.25% increases for the following four consecutive years are needed to fully fund all operating and planned capital expenditures. These rate increases ensure that the water utility will meet the minimum debt coverage target of 1.20, as required for the 2014 Water Refunding & CIP Revenue Bonds.
- **Building and Maintaining Reserve Funds:** The City should maintain sufficient reserves for the Water Utility. NBS recommends that the City adopt and maintain the following reserve fund target balances:
  - ✓ **Operating Reserve (Fund 650)** should normally equal to 90 days of the Utility's budgeted annual operating expenses, which is equal to a three-month (or 25%) cash reserve for normal operations. An Operating Reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures, such as those caused by weather patterns, the natural inflow and outflow of cash during billing cycles, natural variability in demand-based revenue streams (e.g., volumetric charges), and – particularly in periods of economic distress – changes or trends in age of receivables.
  - ✓ **Capital System Replacement Reserve (Fund 653)** should typically be equal to a minimum of 3% of net depreciable capital assets, which equates to a 33-year replacement cycle for capital assets. This target serves simply as a starting point for addressing long-term capital system replacement needs.
  - ✓ **Rate Stabilization Fund (Fund 652)** has a target ending balance of 20% of estimated rate revenue, as set by current City policy. This reserve is to further promote financial stability in the event of short-term reductions in rate revenues.

No debt reserve is recommended in this study, due to the fact that the 2014 Water Refunding & CIP Revenue Bonds do not require funds to be held in reserve. If at some point the City issues additional debt, this policy should be revised to reflect the requirements at that time.

Two financial plan alternatives were prepared at the request of the City Council. Alternative #1 assumes the City implements the previously approved and adopted 6.25% rate increase on January 1, 2016, and a 9% increase on April 1, 2016. Alternative #2 assumes the City will not implement the 6.25% increase on January 1, 2016 and will implement a larger increase of 16% on April 1, 2016, to avoid having two rate adjustments in the current fiscal year. In both alternatives, subsequent rate adjustments will take place on January 1<sup>st</sup> of each year. From a financial planning perspective, the two alternatives are not materially different, as demonstrated in the figures that follow.

**Figures 2 and 3** summarize the sources and uses of funds, net revenue requirements, and the recommended annual percent increases in total rate revenue recommended for the next five years, under each alternative. As these figures show, the water utility runs at a deficit in FY 2015/16, a significantly smaller deficit in FY 2016/17, and surpluses in subsequent years. These surpluses are used to build up reserves, with the intent of meeting target reserve-fund balances by the end of the five-year period under consideration.

**Figure 2. Summary of Water Revenue Requirements – Alternative #1**

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Sources of Water Funds</b>					
Rate Revenue Under Prevailing Rates	\$ 7,329,555	\$ 7,476,146	\$ 8,703,075	\$ 8,877,136	\$ 9,054,679
Non-Rate Revenues	1,111,704	939,388	923,229	948,840	962,224
Interest Earnings	47,138	3,182	3,451	6,223	16,070
<b>Total Sources of Funds</b>	<b>\$ 8,488,396</b>	<b>\$ 8,418,715</b>	<b>\$ 9,629,755</b>	<b>\$ 9,832,199</b>	<b>\$10,032,973</b>
<b>Uses of Water Funds</b>					
Operating Expenses	\$ 8,924,651	\$ 9,051,571	\$ 9,709,848	\$10,034,316	\$10,339,632
Debt Service	939,538	945,549	944,774	943,336	944,184
Rate-Funded Capital Expenses	-	-	419,639	1,109,361	1,148,410
<b>Total Use of Funds</b>	<b>\$ 9,864,189</b>	<b>\$ 9,997,120</b>	<b>\$11,074,261</b>	<b>\$12,087,013</b>	<b>\$12,432,227</b>
<b>Surplus (Deficiency) before Rate Increase</b>	<b>\$ (1,375,793)</b>	<b>\$ (1,578,405)</b>	<b>\$ (1,444,506)</b>	<b>\$ (2,254,814)</b>	<b>\$ (2,399,254)</b>
Additional Revenue from Rate Increases	404,271	1,496,029	2,498,782	3,377,134	4,350,880
<b>Surplus (Deficiency) after Rate Increase</b>	<b>\$ (971,522)</b>	<b>\$ (82,376)</b>	<b>\$ 1,054,276</b>	<b>\$ 1,122,320</b>	<b>\$ 1,951,627</b>
<b>Projected Annual Rate Increase <sup>1</sup></b>	<b>9.00%</b>	<b>7.25%</b>	<b>7.25%</b>	<b>7.25%</b>	<b>7.25%</b>
<b>Cumulative Rate Increases</b>	<b>15.81%</b>	<b>24.21%</b>	<b>33.21%</b>	<b>42.87%</b>	<b>53.23%</b>
<b>Net Revenue Requirement <sup>2</sup></b>	<b>\$ 8,705,347</b>	<b>\$ 9,054,551</b>	<b>\$10,147,581</b>	<b>\$11,131,951</b>	<b>\$11,453,933</b>

1. FY 2015/16 increase is effective on April 1, 2016. All subsequent rate increases are effective on January 1st of each year.

2. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from water rates.

**Figure 3. Summary of Water Revenue Requirements – Alternative #2**

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Sources of Water Funds</b>					
Rate Revenue Under Prevailing Rates	\$ 7,329,555	\$ 7,476,146	\$ 8,703,075	\$ 8,877,136	\$ 9,054,679
Non-Rate Revenues	1,111,704	939,388	923,229	948,840	962,224
Interest Earnings	47,138	2,904	2,967	5,827	15,622
<b>Total Sources of Funds</b>	<b>\$ 8,488,396</b>	<b>\$ 8,418,437</b>	<b>\$ 9,629,271</b>	<b>\$ 9,831,803</b>	<b>\$10,032,525</b>
<b>Uses of Water Funds</b>					
Operating Expenses	\$ 8,924,651	\$ 9,051,571	\$ 9,709,848	\$10,034,316	\$10,339,632
Debt Service	939,538	945,549	944,774	943,336	944,184
Rate-Funded Capital Expenses	-	-	419,639	1,109,361	1,148,410
<b>Total Use of Funds</b>	<b>\$ 9,864,189</b>	<b>\$ 9,997,120</b>	<b>\$11,074,261</b>	<b>\$12,087,013</b>	<b>\$12,432,227</b>
<b>Surplus (Deficiency) before Rate Increase</b>	<b>\$ (1,375,793)</b>	<b>\$ (1,578,683)</b>	<b>\$ (1,444,990)</b>	<b>\$ (2,255,210)</b>	<b>\$ (2,399,702)</b>
Additional Revenue from Rate Increases	293,182	1,510,555	2,516,917	3,396,974	4,372,584
<b>Surplus (Deficiency) after Rate Increase</b>	<b>\$ (1,082,611)</b>	<b>\$ (68,128)</b>	<b>\$ 1,071,927</b>	<b>\$ 1,141,764</b>	<b>\$ 1,972,882</b>
<b>Projected Annual Rate Increase <sup>1</sup></b>	<b>16.00%</b>	<b>7.25%</b>	<b>7.25%</b>	<b>7.25%</b>	<b>7.25%</b>
<b>Cumulative Rate Increases</b>	<b>16.00%</b>	<b>24.41%</b>	<b>33.43%</b>	<b>43.10%</b>	<b>53.48%</b>
<b>Net Revenue Requirement <sup>2</sup></b>	<b>\$ 8,705,347</b>	<b>\$ 9,054,829</b>	<b>\$10,148,065</b>	<b>\$11,132,347</b>	<b>\$11,454,381</b>

1. FY 2015/16 increase is effective on April 1, 2016. All subsequent rate increases are effective on January 1st of each year.

2. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from water rates.

**Figures 4 and 5** summarize the projected reserve fund balances and reserve targets, for the next five years under each alternative. Summaries of the water utility's proposed 5-year financial plan are included in Appendices A and B of this report – Water Rate Study Summary Tables. These tables include revenue requirements, reserve funds, revenue source and proposed rate increases for the 5-year period.

**Figure 4. Summary of Water Reserve Funds – Alternative #1**

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Water Operations Fund (650)</b>	\$ 1,272,626	\$ 690,250	\$ 1,244,526	\$ 2,142,638	\$ 2,540,000
<i>Recommended Minimum Target</i>	<i>2,231,000</i>	<i>2,263,000</i>	<i>2,427,000</i>	<i>2,509,000</i>	<i>2,585,000</i>
<b>Water System Replacement Fund (653)</b>	\$ -	\$ -	\$ -	\$ -	\$ 1,532,072
<i>Recommended Minimum Target</i>	<i>1,407,700</i>	<i>1,399,400</i>	<i>1,426,500</i>	<i>1,437,600</i>	<i>1,436,900</i>
<b>Rate Stabilization Fund (652)</b>	\$ 536,968	\$ 1,038,310	\$ 1,543,502	\$ 1,775,427	\$ 1,810,936
<i>Recommended Minimum Target</i>	<i>1,465,911</i>	<i>1,495,229</i>	<i>1,740,615</i>	<i>1,775,427</i>	<i>1,810,936</i>
<b>Total Ending Balance</b>	<b>\$ 1,809,594</b>	<b>\$ 1,728,560</b>	<b>\$ 2,788,028</b>	<b>\$ 3,918,065</b>	<b>\$ 5,883,008</b>
<i>Total Recommended Minimum Target</i>	<i>\$ 5,104,611</i>	<i>\$ 5,157,629</i>	<i>\$ 5,594,115</i>	<i>\$ 5,722,027</i>	<i>\$ 5,832,836</i>

**Figure 5. Summary of Water Reserve Funds – Alternative #2**

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Water Operations Fund (650)</b>	\$ 1,161,537	\$ 593,410	\$ 1,165,337	\$ 2,082,893	\$ 2,540,000
<i>Recommended Minimum Target</i>	<i>2,231,000</i>	<i>2,263,000</i>	<i>2,427,000</i>	<i>2,509,000</i>	<i>2,585,000</i>
<b>Water System Replacement Fund (653)</b>	\$ -	\$ -	\$ -	\$ -	\$ 1,493,582
<i>Recommended Minimum Target</i>	<i>1,407,700</i>	<i>1,399,400</i>	<i>1,426,500</i>	<i>1,437,600</i>	<i>1,436,900</i>
<b>Rate Stabilization Fund (652)</b>	\$ 536,968	\$ 1,038,310	\$ 1,543,502	\$ 1,775,427	\$ 1,810,936
<i>Recommended Minimum Target</i>	<i>1,465,911</i>	<i>1,495,229</i>	<i>1,740,615</i>	<i>1,775,427</i>	<i>1,810,936</i>
<b>Total Ending Balance</b>	<b>\$ 1,698,505</b>	<b>\$ 1,631,720</b>	<b>\$ 2,708,839</b>	<b>\$ 3,858,320</b>	<b>\$ 5,844,518</b>
<i>Total Recommended Minimum Target</i>	<i>\$ 5,104,611</i>	<i>\$ 5,157,629</i>	<i>\$ 5,594,115</i>	<i>\$ 5,722,027</i>	<i>\$ 5,832,836</i>

## C. CURRENT VS. PROPOSED WATER RATES

Currently, the City charges all customer classes a monthly fixed charge based on meter size, regardless of customer class. In addition to a fixed monthly charge, residential customers pay commodity charges based on a three tiered commodity rate and non-residential customers pay a uniform commodity rate for all water consumed (commodity or volumetric rates are charged per unit of water, or hundred cubic feet (hcf)).

NBS recommends eliminating the fixed rate based solely on meter size and expand this to differentiate between Residential (single and multi-family customers) and Non-Residential customer classes. NBS also recommends using a uniform, or single-tier, volumetric rate rather than a multi-tiered rate design. The use of a uniform volumetric rate better conforms to the requirements of Proposition 218, particularly the more stringent cost-basis required by the recent San Juan Capistrano decision.

In developing the recommended uniform commodity charge for residential customers, NBS evaluated several variations of tiered volumetric rates along with the City's specific sources of water supply. This more stringent cost-basis is a result of the San Juan Capistrano decision, which is summarized as follows:

*"... the City (of San Juan Capistrano) failed to demonstrate that the tiers correspond to the actual cost of providing service at a given level of usage. The court rejected reliance on Article X, Section 2 to promote water conservation as the sole basis for establishing tiers, holding the city had to show that the various usage tiers corresponded with its actual costs of delivering water in those increments." And that "...rates were not proportional to the cost of service because the City did not calculate the incremental cost of providing water at the level*

*of use represented by each tier. Specifically, the court criticized the City for not correlating its rates within each tier to the prices of water used within each tier.”<sup>7</sup>*

Because of the significant differences in typical water use of commercial customers (e.g., laundromat vs. restaurants vs. office space), uniform commodity charges will continue to be applied to their consumption. This is a commonly used approach for these types of customers, and is the primary reason why tiered rates typically aren’t used for commercial customers.

**Figures 6 and 7** provide a comparison of the current and proposed rates for Fiscal Year 2015/16 through 2019/20, for Alternatives #1 and #2. **Figure 8 and Figure 9** compare monthly bills for single-family and multi-family residential customers under current and proposed rates at varying levels of water consumption. **Figure 10** shows a comparison of monthly bills for commercial customers under current and proposed rates at varying levels of water consumption. **Figure 11** shows a regional bill comparison for the average single-family residential customer in Morgan Hill.

In addition to the fixed monthly and uniform commodity rates, the City will be implementing a pass-through provision for groundwater production charges. At this time, increases to this expense are accounted for with normal inflation factored at 3% annually. Should groundwater production costs increase more than the annual rate of inflation, the City will modify rates to offset the cost(s) accordingly. While this rate is discussed in conjunction with the rate study, it would be implemented as needed in the future.

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<sup>7</sup> Source: “Legal Alerts – California Court of Appeal Holds City’s Tiered Water Rate Structure Violates Proposition 218” by Kelly Salt, Best Best & Krieger, April 21, 2015.

**Figure 6. Current and Proposed Water Rates for FY 2015/16 through 2019/20 - Alternative #1**

Water Rate Schedule	Current Rates	Proposed Water Rates 50% Fixed / 50% Variable				
		FY 2015/16 <sup>1</sup>	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
Projected Increase in Rate Revenue per Financial Plan:		9.00%	7.25%	7.25%	7.25%	7.25%
<b>Fixed Service Charges</b>	<b>Monthly Rates</b>					
<u>Single- and Multi-Family Residential:</u>						
5/8 inch	\$8.41	\$20.66	\$22.16	\$27.12	\$29.09	\$31.20
3/4 inch	\$8.41	\$20.66	\$22.16	\$27.12	\$29.09	\$31.20
1 inch	\$8.41	\$20.66	\$22.16	\$27.12	\$29.09	\$31.20
1.5 inch	\$13.99	\$38.77	\$41.58	\$50.90	\$54.59	\$58.55
2 inch	\$22.48	\$60.51	\$64.89	\$79.43	\$85.19	\$91.36
3 inch	\$44.90	\$118.46	\$127.05	\$155.51	\$166.78	\$178.88
4 inch	\$72.69	\$183.66	\$196.97	\$241.10	\$258.58	\$277.33
6 inch	\$111.65	\$364.76	\$391.21	\$478.85	\$513.57	\$550.80
<u>Non-Residential:</u>						
5/8 inch	\$8.41	\$31.23	\$33.49	\$41.00	\$43.97	\$47.16
3/4 inch	\$8.41	\$31.23	\$33.49	\$41.00	\$43.97	\$47.16
1 inch	\$8.41	\$31.23	\$33.49	\$41.00	\$43.97	\$47.16
1.5 inch	\$13.99	\$59.91	\$64.25	\$78.64	\$84.34	\$90.46
2 inch	\$22.48	\$94.32	\$101.16	\$123.82	\$132.79	\$142.42
3 inch	\$44.90	\$186.08	\$199.57	\$244.29	\$262.00	\$280.99
4 inch	\$72.69	\$289.32	\$310.30	\$379.81	\$407.35	\$436.88
6 inch	\$111.65	\$576.09	\$617.86	\$756.28	\$811.11	\$869.91
<u>Fire Service:</u>						
3 inch	--	\$7.88	\$8.46	\$10.35	\$11.10	\$11.91
4 inch	\$16.58	\$13.22	\$14.18	\$17.35	\$18.61	\$19.96
6 inch	\$24.86	\$26.93	\$28.88	\$35.35	\$37.92	\$40.66
8 inch	\$33.15	\$45.21	\$48.49	\$59.36	\$63.66	\$68.27
10 inch	\$41.43	\$69.59	\$74.64	\$91.36	\$97.98	\$105.09
<b>Volumetric Charges</b>						
<u>Single-Family Res / Multi-Family Res per DU:</u>						
Tier 1 (1-10 hcf / 1-8 hcf)	\$1.63	--	--	--	--	--
Tier 2 (11-30 hcf / 9-16 hcf)	\$3.27	--	--	--	--	--
Tier 3 (31+ hcf / 17+)	\$4.90	--	--	--	--	--
Uniform Rate, Non-Residential Customers	\$2.67	--	--	--	--	--
Uniform Rate, All Customers	--	\$1.64	\$1.76	\$1.96	\$2.10	\$2.26

1. The Fiscal Year 2015/16 rate increase will be effective April 1, 2016, and all subsequent rate increases will be effective on January 1st of each year.  
In this rate alternatives, the previously approved and adopted 6.25% increase planned for January 1, 2016 will be implemented.

**Figure 7. Current and Proposed Water Rates for FY 2015/16 through 2019/20 - Alternative #2**

Water Rate Schedule	Current Rates	Proposed Water Rates 50% Fixed / 50% Variable				
		FY 2015/16 <sup>1</sup>	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
Projected Increase in Rate Revenue per Financial Plan:		16.00%	7.25%	7.25%	7.25%	7.25%
<b>Fixed Service Charges</b>	<b>Monthly Rates</b>					
<u>Single- and Multi-Family Residential:</u>						
5/8 inch	\$8.41	\$20.70	\$22.20	\$27.17	\$29.14	\$31.25
3/4 inch	\$8.41	\$20.70	\$22.20	\$27.17	\$29.14	\$31.25
1 inch	\$8.41	\$20.70	\$22.20	\$27.17	\$29.14	\$31.25
1.5 inch	\$13.99	\$38.84	\$41.65	\$50.98	\$54.68	\$58.64
2 inch	\$22.48	\$60.60	\$65.00	\$79.56	\$85.33	\$91.51
3 inch	\$44.90	\$118.65	\$127.25	\$155.76	\$167.05	\$179.17
4 inch	\$72.69	\$183.95	\$197.29	\$241.49	\$259.00	\$277.77
6 inch	\$111.65	\$365.35	\$391.84	\$479.62	\$514.40	\$551.69
<u>Non-Residential:</u>						
5/8 inch	\$8.41	\$31.28	\$33.55	\$41.06	\$44.04	\$47.23
3/4 inch	\$8.41	\$31.28	\$33.55	\$41.06	\$44.04	\$47.23
1 inch	\$8.41	\$31.28	\$33.55	\$41.06	\$44.04	\$47.23
1.5 inch	\$13.99	\$60.00	\$64.35	\$78.77	\$84.48	\$90.60
2 inch	\$22.48	\$94.47	\$101.32	\$124.02	\$133.01	\$142.65
3 inch	\$44.90	\$186.39	\$199.90	\$244.68	\$262.42	\$281.45
4 inch	\$72.69	\$289.79	\$310.80	\$380.43	\$408.01	\$437.59
6 inch	\$111.65	\$577.02	\$618.86	\$757.50	\$812.42	\$871.32
<u>Fire Service:</u>						
3 inch	--	\$7.90	\$8.47	\$10.37	\$11.12	\$11.92
4 inch	\$16.58	\$13.24	\$14.20	\$17.38	\$18.64	\$19.99
6 inch	\$24.86	\$26.97	\$28.93	\$35.41	\$37.98	\$40.73
8 inch	\$33.15	\$45.29	\$48.57	\$59.45	\$63.76	\$68.38
10 inch	\$41.43	\$69.71	\$74.76	\$91.51	\$98.14	\$105.26
<b>Volumetric Charges</b>						
<u>Single-Family Res / Multi-Family Res per DU:</u>						
Tier 1 (1-10 hcf / 1-8 hcf)	\$1.63	--	--	--	--	--
Tier 2 (11-30 hcf / 9-16 hcf)	\$3.27	--	--	--	--	--
Tier 3 (31+ hcf / 17+)	\$4.90	--	--	--	--	--
Uniform Rate, Non-Residential Customers	\$2.67	--	--	--	--	--
Uniform Rate, All Customers	--	\$1.65	\$1.77	\$1.96	\$2.11	\$2.26

1. In this iteration of the analysis, the previously approved and adopted 6.25% rate increase for January 1, 2016 will not be implemented. Only a single increase of 16% will be effective on April 1, 2016. All subsequent rate increases will be effective on January 1st of each year.

The City's current policy is to charge 5/8" – 1" meters the same rate; this practice has been maintained in the proposed rates shown in Figures 4 and 5, per direction from City Staff. Various alternatives to this structure were evaluated in the study; however, 1" meters are the minimum meter size that will be installed as customers connect to the system and as meters are replaced, the 5/8" and 3/4" meters are replaced with 1" meters. Therefore, NBS believes this approach is reasonable.



Figure 8. Comparison of Monthly Water Bills for Single-Family Residential Customers

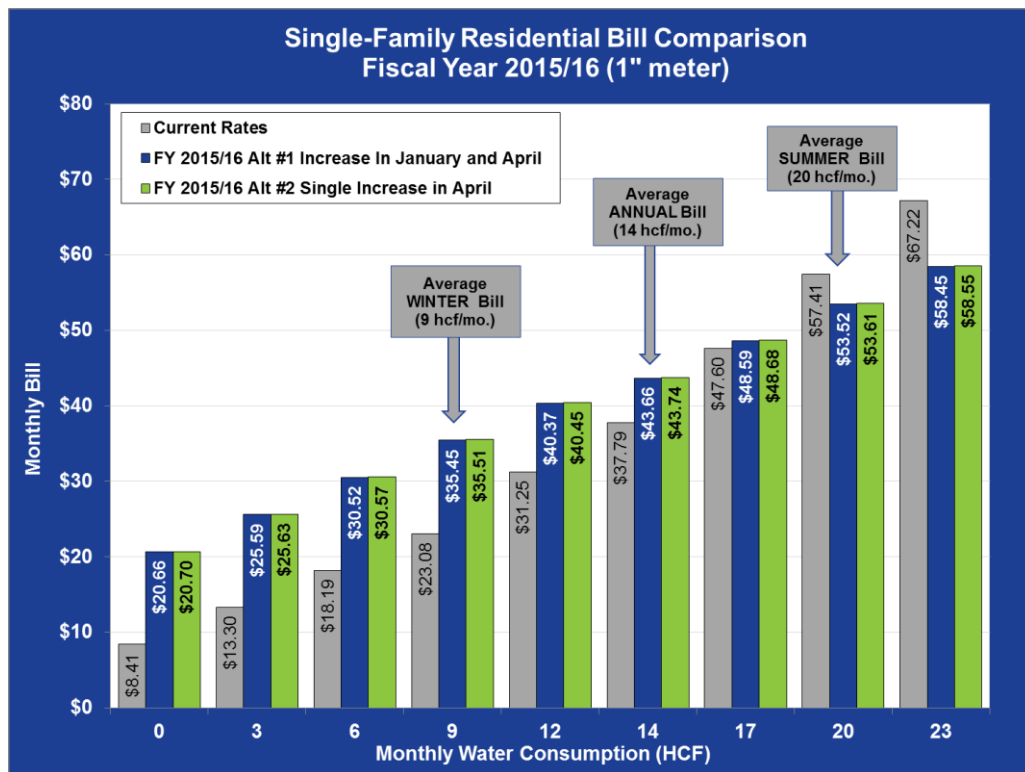


Figure 9. Comparison of Monthly Water Bills for Multi-Family Residential Customers

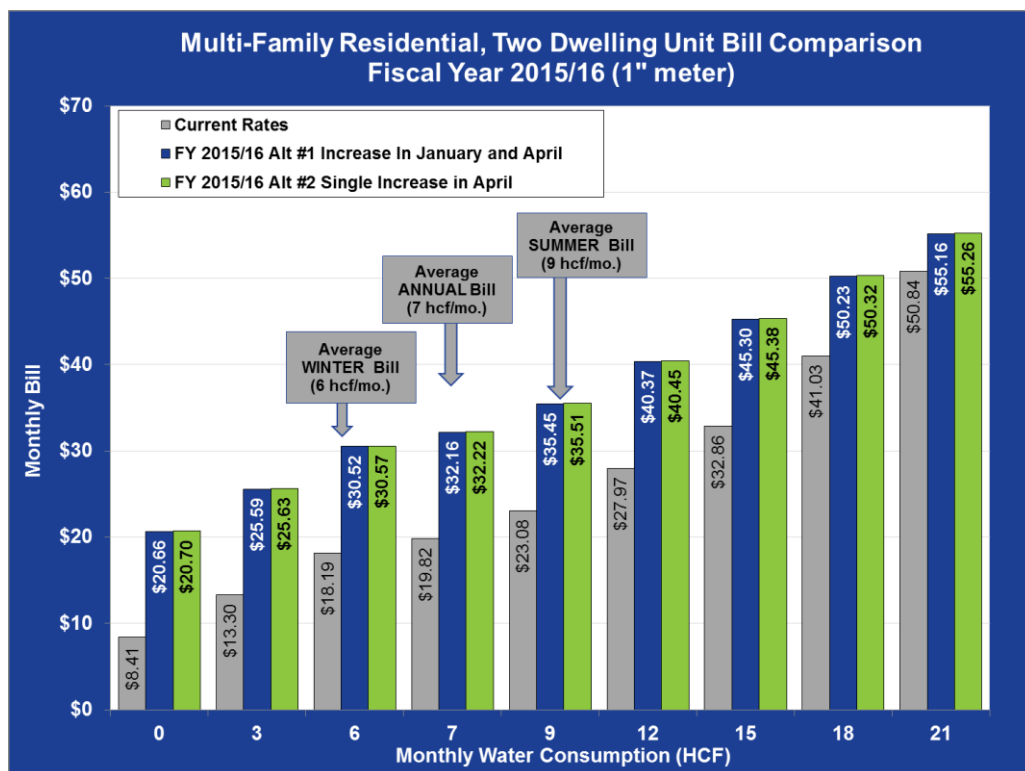


Figure 10. Comparison of Monthly Water Bills for Commercial Customers

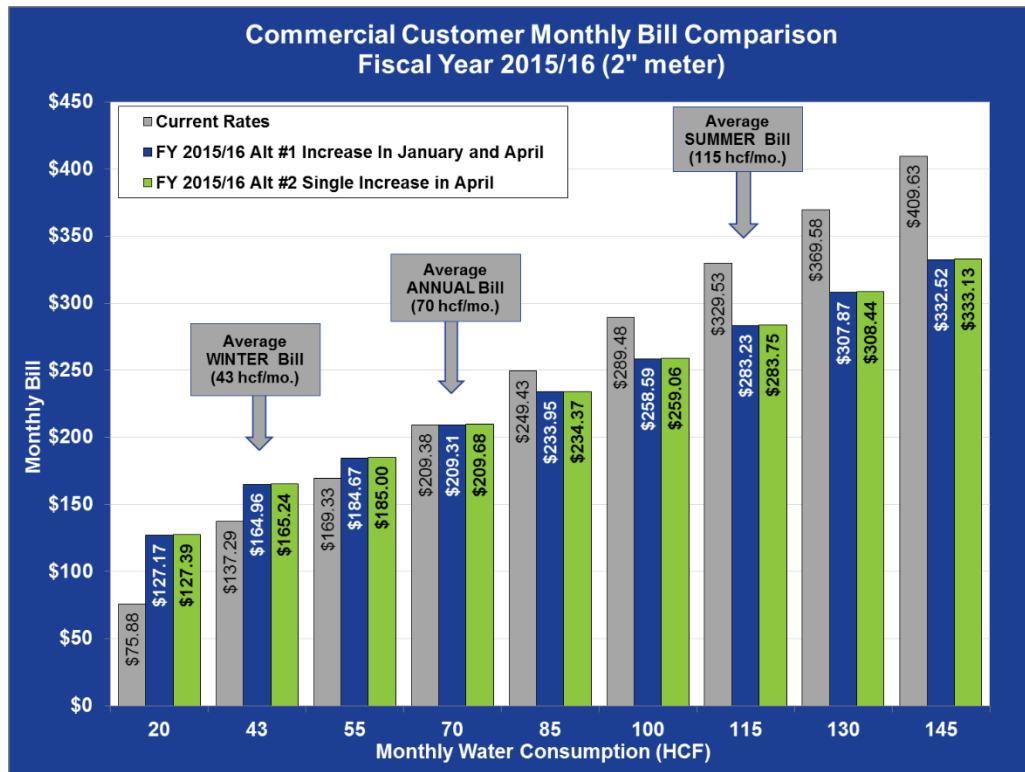
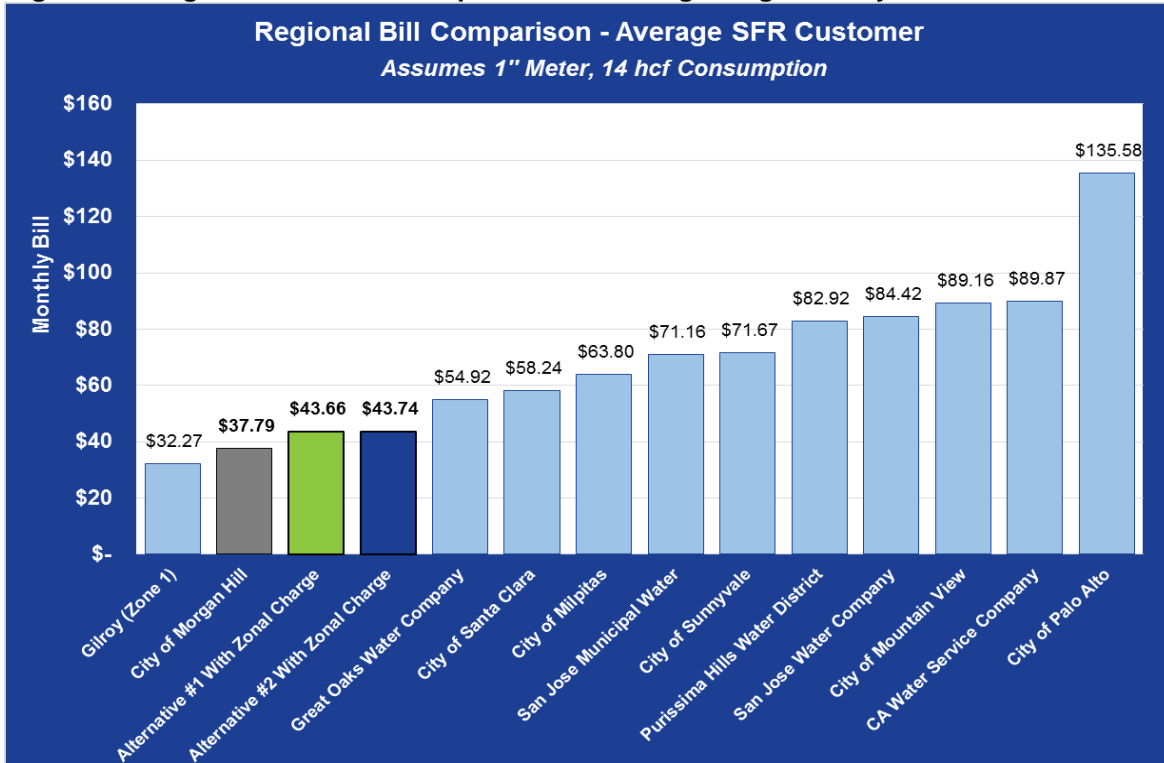


Figure 11. Regional Water Bill Comparison for Average Single-Family Residential Customer



## SECTION 3. WASTEWATER RATE STUDY

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### A. KEY WASTEWATER RATE STUDY ISSUES

The specific objectives addressed in the wastewater rate analysis included:

- Generating additional revenue needed to meet projected funding requirements.
- Continuing the City's existing rate structure which consists of a fixed monthly charge based on meter size, a volumetric charge for commercial customers that relies on monthly water use, and the volumetric charge for single and multi-family residential customer that is applied to average winter water use.

During the course of this study, NBS developed several wastewater rate alternatives using industry standards and cost-of-service principles for the City to consider. These included re-structuring fixed charges to be based on customer class rather than meter size. We also evaluated re-structuring the commercial volumetric charges by collapsing a few categories and re-assigning some customers into different classes. The rate alternatives presented in this report reflect input from City staff, the most significant of which was maintaining the existing rate structure and apply across-the-board increases to the existing rate schedule.

The proposed rates for the next five years consists of a fixed monthly charge per account based on meter size, plus a variable rate based on water consumption that differs by customer class. The variable rate is billed based on monthly water consumption for commercial customers, and average winter water consumption for residential customers.

### B. WASTEWATER UTILITY REVENUE REQUIREMENTS

It is important for municipal utilities to maintain reasonable reserves in order to handle emergencies, fund working capital, maintain a good credit rating, and generally follow sound financial management practices. Rate increases are governed by the need to meet operating and capital costs, maintain and build reserve funds. The current state of the City's wastewater utility is as follows:

- **Meeting Net Revenue Requirements:** The City's wastewater utility is in a strong financial position, meaning rates are generally sufficient to meet projected net revenue requirements (i.e., total annual expenses plus debt service and rate-funded capital costs, less non-rate revenues) over the next five years. Net revenue requirements are projected to increase from approximately \$7.7 million to \$10.2 million in Fiscal Years 2015/16 through 2019/20. Only minor increases to rate revenue of 1% per year are recommended in FY 2016/17 through 2019/20, in order to continue meeting financial obligations in the long run and ensure that the wastewater utility will meet the minimum debt coverage requirement of 1.25, as required for the 2015 Wastewater Revenue Bonds.
- **Building and Maintaining Reserve Funds:** The City should maintain sufficient reserves for the Utility. NBS recommends that the City adopt and maintain reserve fund targets similar to those of the water utility, including:
  - ✓ **Operating Reserve (Fund 640)** target is set to 90 days of the Utility's budgeted annual operating expenses, which is equal to a three-month (or 25%) cash cushion for normal operations. An Operating Reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures. Fluctuations might be caused by weather patterns, the natural inflow and outflow of cash during billing cycles, natural variability in demand-based revenue streams (e.g., variable charges), and – particularly in periods of economic distress – changes or trends in age of receivables.
  - ✓ **Capital System Replacement Reserve (Fund 643)** should typically be equal to a minimum of 3% of net depreciable capital assets, which equates to a 33-year replacement cycle for capital

assets. This target serves simply as a starting point for addressing long-term capital system replacement needs.

- ✓ **Rate Stabilization Fund (Fund 642)** has a target ending balance of 20% of estimated rate revenue, as set by current City policy. This reserve is to further promote financial stability in the event of short-term reductions in rate revenues.

No debt reserve is recommended in this study, due to the fact that the 2015 Sewer Revenue Bonds do not require funds to be held in reserve. If at some point the City issues additional debt, this policy should be revised to reflect the requirements at that time.

Multiple financial plan alternatives were prepared at the request of the City Staff and the Council. Only the alternative that is recommended for implementation is presented in this report, which consists of 2% increase in rate revenue for FY 2016/17 through 2019/20. The first increase will be effective on January 1, 2017 each January 1<sup>st</sup> thereafter. The 2% increase in rate revenue will be accomplished by increasing general wastewater rates by 1% annually, and implementing the zonal surcharges described in Section 4 of this report.

**Figure 12** summarizes the sources and uses of funds, including net revenue requirements, and the recommended annual percent increases in total rate revenue for the next five years.

**Figure 12. Summary of Wastewater Revenue Requirements**

Summary of Sources and Uses of Funds and Net Revenue Requirements	City's Budget Projections				
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Sources of Wastewater Funds</b>					
Rate Revenue Under Prevailing Rates	\$ 9,921,864	\$ 10,090,078	\$ 10,291,880	\$ 10,497,718	\$ 10,707,672
Other Operating Revenue	175,843	179,543	183,354	187,280	191,323
Interest Earnings	41,394	15,959	34,087	53,763	50,628
<b>Total Sources of Funds</b>	<b>\$ 10,139,100</b>	<b>\$ 10,285,581</b>	<b>\$ 10,509,320</b>	<b>\$ 10,738,761</b>	<b>\$ 10,949,623</b>
<b>Uses of Wastewater Funds</b>					
Operating Expenses	\$ 7,566,286	\$ 7,861,132	\$ 8,180,753	\$ 8,517,079	\$ 8,862,574
Debt Service	502,299	1,841,791	1,845,120	1,844,478	1,844,003
Rate-Funded Capital Expenses	-	-	-	-	-
<b>Total Use of Funds</b>	<b>\$ 8,068,585</b>	<b>\$ 9,702,923</b>	<b>\$ 10,025,873</b>	<b>\$ 10,361,557</b>	<b>\$ 10,706,577</b>
<b>Surplus (Deficiency) before Rate Increase</b>	<b>\$ 2,070,516</b>	<b>\$ 582,658</b>	<b>\$ 483,447</b>	<b>\$ 377,203</b>	<b>\$ 243,046</b>
Additional Revenue from Rate Increases	-	100,901	310,815	533,326	769,026
<b>Surplus (Deficiency) after Rate Increase</b>	<b>\$ 2,070,516</b>	<b>\$ 683,559</b>	<b>\$ 794,262</b>	<b>\$ 910,530</b>	<b>\$ 1,012,072</b>
<b>Projected Annual Increase to Rate Revenue<sup>1</sup></b>	<b>0.00%</b>	<b>2.00%</b>	<b>2.00%</b>	<b>2.00%</b>	<b>2.00%</b>
<b>Cumulative Rate Increases</b>	<b>0.00%</b>	<b>2.00%</b>	<b>4.04%</b>	<b>6.12%</b>	<b>8.24%</b>
<b>Net Revenue Requirement<sup>2</sup></b>	<b>\$ 7,851,348</b>	<b>\$ 9,507,421</b>	<b>\$ 9,808,433</b>	<b>\$ 10,120,514</b>	<b>\$ 10,464,626</b>

1. Rate adjustments will be effective on January 1st of each year.

2. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from sewer rates.

**Figure 13** summarizes the projected reserve fund balances and reserve targets, for the next five years. A summary of the wastewater utility's proposed 5-year financial plan is included in Appendix C – Wastewater Rate Study Summary Tables. These tables include revenue requirements, reserve funds, revenue sources and proposed rate increases for the 5-year period.

**Figure 13. Summary of Wastewater Reserve Funds**

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Sewer Operations Fund (640)</b>	\$ 1,892,000	\$ 1,965,000	\$ 2,045,000	\$ 2,129,000	\$ 2,216,000
<i>Recommended Minimum Target</i>	<i>1,892,000</i>	<i>1,965,000</i>	<i>2,045,000</i>	<i>2,129,000</i>	<i>2,216,000</i>
<b>Sewer System Replacement Fund (643)</b>	\$ 4,491,747	\$ 4,852,305	\$ 5,123,429	\$ 4,621,380	\$ 3,854,750
<i>Recommended Minimum Target</i>	<i>1,473,700</i>	<i>1,662,300</i>	<i>1,950,100</i>	<i>2,153,500</i>	<i>2,402,600</i>
<b>Rate Stabilization Fund (652)</b>	\$ 1,509,814	\$ 1,763,589	\$ 2,022,406	\$ 2,112,575	\$ 2,178,419
<i>Recommended Minimum Target</i>	<i>1,984,373</i>	<i>2,038,196</i>	<i>2,120,539</i>	<i>2,206,209</i>	<i>2,295,340</i>
<b>Total Ending Balance</b>	<b>\$ 7,893,561</b>	<b>\$ 8,580,894</b>	<b>\$ 9,190,835</b>	<b>\$ 8,862,955</b>	<b>\$ 8,249,169</b>
<i>Total Recommended Minimum Target</i>	<i>\$ 5,350,073</i>	<i>\$ 5,665,496</i>	<i>\$ 6,115,639</i>	<i>\$ 6,488,709</i>	<i>\$ 6,913,940</i>

### C. CURRENT VS. PROPOSED WASTEWATER RATES

The rate design process provides an opportunity to evaluate several rate-design objectives and policies, such as revenue stability, equity among customer classes, and how changing the amount of rate revenue collected from fixed monthly vs. volumetric charges affects typical customer bills. As mentioned in Section 3A of this report, several of these alternatives were evaluated in this study; however the City has chosen to maintain the existing rate structure and simply increase existing rates by the percentage increase needed in overall rate revenue.

Single- and multi- family residential customers with meter sizes between 5/8-inch to 1-inch will pay a fixed monthly service charge, and a volumetric charge per hcf based on average winter water use. All other users will pay a fixed charge based on meter size and a volumetric rate based on actual monthly water consumption. There are six Commercial customer classifications that apply to volumetric rates (for all non-residential customers), that reflect the strength characteristics of each customer class.

**Figure 14** shows current and proposed wastewater rates for FY 2015/16 through FY 2019/20. More detailed tables documenting the development of the proposed wastewater rates are documented in Appendix C. As noted above, the 2% increase in total rate revenue will be collected from new rates, which will occur with a 1% increase in general wastewater rates (as shown in Figure 14 below), and implementing the proposed zonal surcharges described in Section 4 of this report.

**Figure 14. Current vs. Proposed Wastewater Rates**

Sewer Rate Schedule	Current Rates	Proposed Rates with 2% Annual Increase (with Zonal Charge) <sup>1</sup>				
		FY 2015/16 <sup>2</sup>	FY 2016/17 <sup>3</sup>	FY 2017/18	FY 2018/19	FY 2019/20
		0.00%	1.00%	1.00%	1.00%	1.00%
Monthly Fixed Charges:						
Residential (5/8-1 inch meters)	\$18.54	\$18.54	\$18.73	\$18.91	\$19.10	\$19.29
All Other Customers:						
5/8 inch	\$18.54	\$18.54	\$18.73	\$18.91	\$19.10	\$19.29
3/4 inch	\$18.54	\$18.54	\$18.73	\$18.91	\$19.10	\$19.29
1 inch <sup>4</sup>	\$18.54	\$18.54	\$18.73	\$18.91	\$19.10	\$19.29
1.5 inch	\$69.38	\$69.38	\$70.07	\$70.77	\$71.48	\$72.20
2 inch	\$110.47	\$110.47	\$111.57	\$112.69	\$113.82	\$114.96
3 inch	\$240.66	\$240.66	\$243.07	\$245.50	\$247.95	\$250.43
4 inch	\$432.27	\$432.27	\$436.59	\$440.96	\$445.37	\$449.82
6 inch	\$959.45	\$959.45	\$969.04	\$978.73	\$988.52	\$998.41
8 inch	\$1,482.18	\$1,482.18	\$1,497.00	\$1,511.97	\$1,527.09	\$1,542.36
10 inch	\$1,852.73	\$1,852.73	\$1,871.26	\$1,889.97	\$1,908.87	\$1,927.96
Volumetric Charges:						
Single-Family (Applied to <u>Avg. Winter</u> Water Use)	\$3.93	\$3.93	\$3.97	\$4.01	\$4.05	\$4.09
Multi-Family (Applied to <u>Avg. Winter</u> Water Use)	\$3.93	\$3.93	\$3.97	\$4.01	\$4.05	\$4.09
Commercial Charge (Applied to <u>Monthly</u> Water Use):						
Commercial 1	\$3.76	\$3.76	\$3.80	\$3.84	\$3.87	\$3.91
Commercial 2	\$4.40	\$4.40	\$4.44	\$4.49	\$4.53	\$4.58
Commercial 3	\$5.35	\$5.35	\$5.40	\$5.46	\$5.51	\$5.57
Commercial 4	\$6.07	\$6.07	\$6.13	\$6.19	\$6.25	\$6.32
Commercial 5	\$7.21	\$7.21	\$7.28	\$7.35	\$7.43	\$7.50
Commercial 6	\$12.03	\$12.03	\$12.15	\$12.27	\$12.39	\$12.52

1. A 2% increase in rate revenue is achieved with a 1% increase on general sewer rates and an additional 1% collected from the new zonal surcharge.

2. A 3.5% rate increase effective January 1, 2016 was approved and adopted in a prior Proposition 218 process. Under this rate alternative, the City is not implementing these rates.

3. The first rate adjustment will be effective on January 1, 2017 and all subsequent increases will be effective on January 1st of each year thereafter.

4. The 1 inch commercial meter fixed charge is the set equal to the residential 1 inch meter charge.

**Figure 15** compares the average monthly wastewater bills<sup>8</sup> for residential customers under current and proposed rates; **Figure 16** compares commercial bills (Commercial 2 customer class) under current vs. proposed rates. **Figure 17** shows a regional bill comparison for the average single-family residential customer in Morgan Hill.

<sup>8</sup> Residential customers are billed based average winter water use and their wastewater bill is fixed for the next 12 months.



Figure 15. Residential Wastewater Bill Comparison – Current vs. Proposed Rates

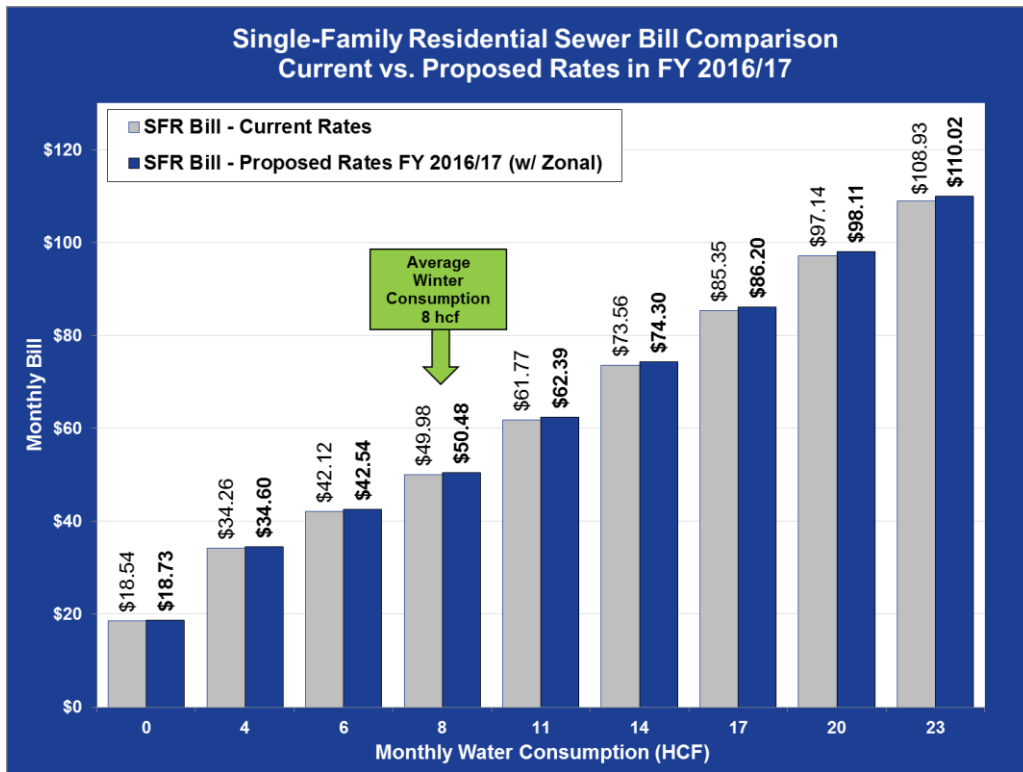
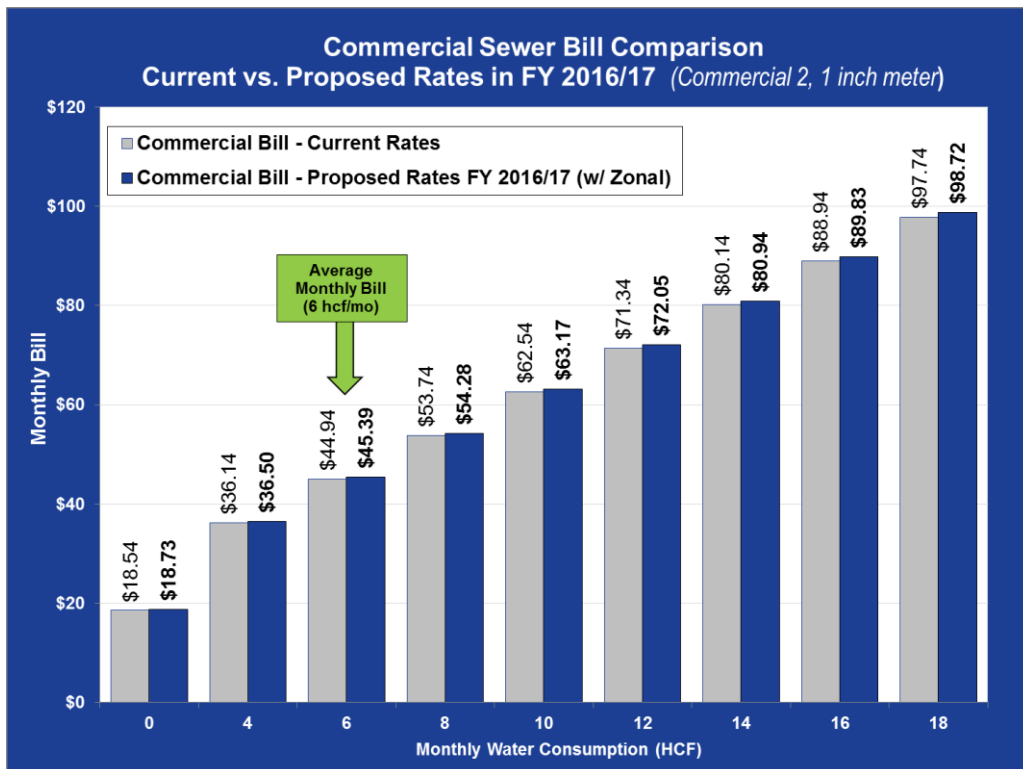
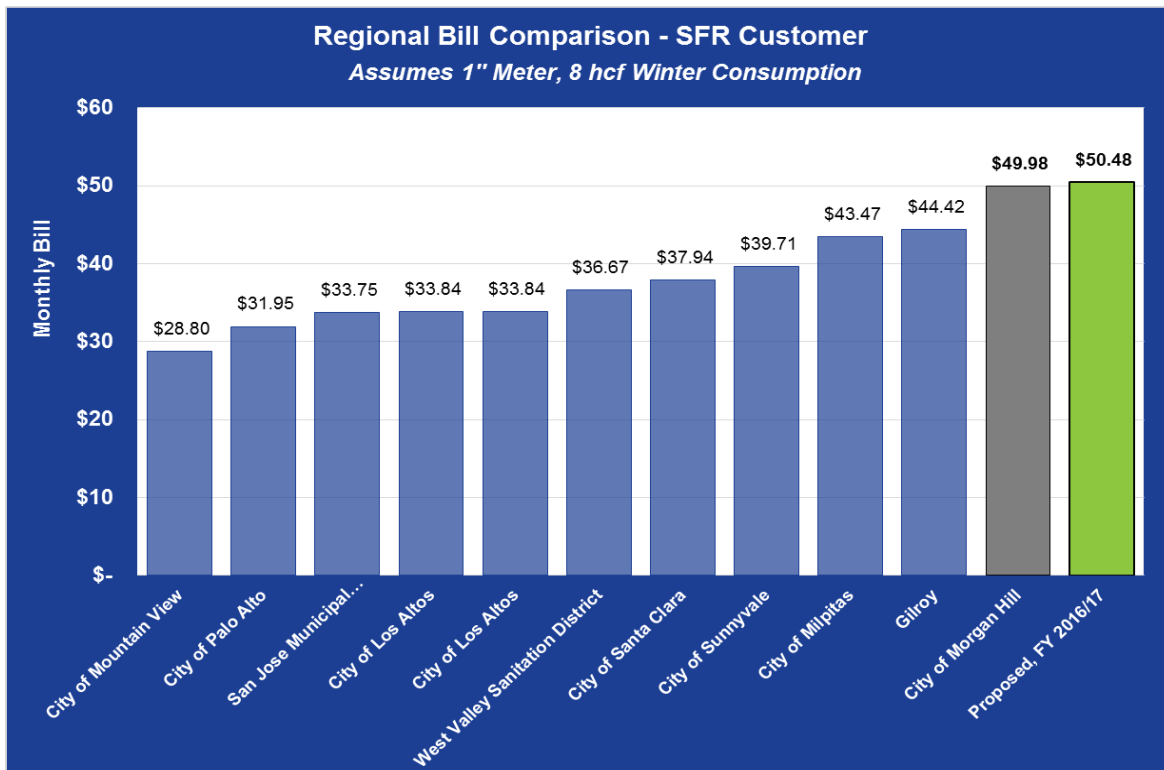


Figure 16. Commercial 2 Wastewater Bill Comparison – Current vs. Proposed Rates



**Figure 17. Regional Sewer Bill Comparison for Average Single-Family Residential Customer**



## SECTION 4. ZONAL ELEVATION SURCHARGES

### OVERVIEW OF ZONAL ELEVATION SURCHARGES

The City has multiple zones for the water and wastewater system. There are three zones for both the water and wastewater systems. As part of this study, NBS evaluated the cost to serve customers in each zone, including annual power, maintenance and facility replacement costs. Surcharges for each zone were calculated based on the costs allocated to each zone, along with the number of customers and the amount of water or wastewater that flows through each zone.

The surcharges are structured to be cumulative; for example, customers in Zone 2 would pay the Zone 1 surcharge plus the Zone 2 surcharge. Two alternatives were prepared in the study for zonal surcharges; Alternative #1 is strictly volumetric and is based on the amount of water consumed. Alternative #2 has fixed and variable components where there is a monthly fixed charge per customer plus a volumetric component based on the amount of water consumed. **Figures 18 and 19** show the two alternatives for zonal surcharges for the water and wastewater utilities.

**Figure 18. Water Zonal Elevation Surcharges**

Water Enterprise Zonal Elevation Surcharges			Alternative #1	Alternative #2	
Elevation Zones	Number of Customers	Annual Flow (hcf)	Volumetric Surcharge (\$/hcf)	Monthly Fixed Surcharge (\$/customer)	Volumetric Surcharge (\$/hcf)
Zone 1	2,630	717,830	\$0.57	\$9.78	\$0.14
Zone 2	701	184,926	\$2.06	\$36.59	\$0.37
Zone 3	115	24,064	\$5.49	\$91.97	\$0.62
<b>Total</b>	<b>3,446</b>	<b>926,821</b>	--	--	--

**Figure 19. Wastewater Zonal Elevation Surcharges**

Wastewater Enterprise Zonal Elevation Surcharges			Alternative #1	Alternative #2	
Elevation Zones	Number of Customers	Annual Flow (hcf)	Volumetric Surcharge (\$/hcf)	Monthly Fixed Surcharge (\$/customer)	Volumetric Surcharge (\$/hcf)
Zone 1	1,476	73,007	\$2.66	\$11.07	\$0.16
Zone 2	515	30,864	\$5.20	\$23.41	\$0.34
Zone 3	80	6,381	\$10.31	\$52.70	\$1.04
<b>Total</b>	<b>2,071</b>	<b>110,251</b>	--	--	--

A five-year projection of costs was prepared in the zonal elevation surcharge analysis, in order to provide a five-year schedule of surcharges that is consistent with the rate schedules prepared in this study for the water and wastewater utilities. **Figures 20 and 21** show the five year schedules of surcharges for both alternatives developed in the study. As noted above, Alternative #1 is strictly volumetric and Alternative #2 is both fixed and volumetric. Please refer to Appendix D of this report, which shows the detail of how the zone surcharges were calculated.

**Figure 20. Five-Year Schedule of Water Zonal Elevation Surcharges  
for Alternatives #1 and 2**

<b>Water Enterprise Zonal Elevation Surcharges: Alternative #1 - Volumetric Surcharges (\$/hcf)</b>					
<b>Elevation Zones</b>	<b>FY 2015/16</b>	<b>FY 2016/17</b>	<b>FY 2017/18</b>	<b>FY 2018/19</b>	<b>FY 2019/20</b>
	<b>% Increase <sup>1</sup></b>	<b>4.4%</b>	<b>4.4%</b>	<b>4.4%</b>	<b>4.4%</b>
Zone 1	\$0.57	\$0.60	\$0.62	\$0.65	\$0.68
Zone 2	\$2.06	\$2.15	\$2.25	\$2.35	\$2.45
Zone 3	\$5.49	\$5.73	\$5.99	\$6.25	\$6.53
<b>Water Enterprise Zonal Elevation Surcharges: Alternative #2 - Fixed and Volumetric Surcharges</b>					
<b>Elevation Zones</b>	<b>FY 2015/16</b>	<b>FY 2016/17</b>	<b>FY 2017/18</b>	<b>FY 2018/19</b>	<b>FY 2019/20</b>
	<b>% Increase <sup>1</sup></b>	<b>4.4%</b>	<b>4.4%</b>	<b>4.4%</b>	<b>4.4%</b>
<b>Fixed Monthly Surcharges (\$/customer)</b>					
Zone 1	\$9.78	\$10.21	\$10.66	\$11.13	\$11.63
Zone 2	\$36.59	\$38.20	\$39.89	\$41.65	\$43.50
Zone 3	\$91.97	\$96.03	\$100.27	\$104.71	\$109.34
<b>Volumetric Surcharges (\$/hcf)</b>					
Zone 1	\$0.14	\$0.14	\$0.15	\$0.16	\$0.16
Zone 2	\$0.37	\$0.38	\$0.40	\$0.42	\$0.43
Zone 3	\$0.62	\$0.65	\$0.67	\$0.70	\$0.74

1. the Annual % increase is due to cost inflation applied to zone-specific costs.

**Figure 21. Five-Year Schedule of Wastewater Zonal Elevation Surcharges  
for Alternatives #1 and 2**

<b>Wastewater Enterprise Zonal Elevation Surcharges: Alternative #1 - Volumetric Surcharges (\$/hcf)</b>					
<b>Elevation Zones</b>	<b>FY 2015/16</b>	<b>FY 2016/17</b>	<b>FY 2017/18</b>	<b>FY 2018/19</b>	<b>FY 2019/20</b>
	<b>% Increase <sup>1</sup></b>	<b>4.3%</b>	<b>4.3%</b>	<b>4.3%</b>	<b>4.3%</b>
Zone 1	\$2.66	\$2.77	\$2.89	\$3.02	\$3.15
Zone 2	\$5.20	\$5.42	\$5.66	\$5.90	\$6.15
Zone 3	\$10.31	\$10.75	\$11.21	\$11.70	\$12.20
<b>Wastewater Enterprise Zonal Elevation Surcharges: Alternative #2 - Fixed and Volumetric Surcharges</b>					
<b>Elevation Zones</b>	<b>FY 2015/16</b>	<b>FY 2016/17</b>	<b>FY 2017/18</b>	<b>FY 2018/19</b>	<b>FY 2019/20</b>
	<b>% Increase <sup>1</sup></b>	<b>4.3%</b>	<b>4.3%</b>	<b>4.3%</b>	<b>4.3%</b>
<b>Fixed Monthly Surcharges (\$/customer)</b>					
Zone 1	\$11.07	\$11.54	\$12.04	\$12.55	\$13.10
Zone 2	\$23.41	\$24.41	\$25.46	\$26.56	\$27.70
Zone 3	\$52.70	\$54.97	\$57.33	\$59.80	\$62.37
<b>Volumetric Surcharges (\$/hcf)</b>					
Zone 1	\$0.16	\$0.17	\$0.18	\$0.19	\$0.19
Zone 2	\$0.34	\$0.35	\$0.37	\$0.38	\$0.40
Zone 3	\$1.04	\$1.09	\$1.14	\$1.18	\$1.24

1. the Annual % increase is due to cost inflation applied to zone-specific charges.

## SECTION 5. RECOMMENDATIONS AND NEXT STEPS

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### CONSULTANT RECOMMENDATIONS

NBS recommends the City take the following actions for the water and wastewater rates:

- **Approve and Accept This Study Report:** NBS recommends the City Council formally approve and adopt this report and its recommendations. This will provide documentation of the rate study analyses and the basis for analyzing potential changes to future rates.
- **Adopt Reserve Fund Targets:** NBS recommends the City Council adopt the consultant proposed reserve fund targets described in Sections 2 and 3 of this report for the water and wastewater utilities. The City should periodically evaluate reserve fund levels and make it a long-term goal to achieve these levels for the Operating, Capital, and Rate Stabilization Reserves.
- **Complete a Legal Review:** This rate study outlines proposed new rates. Particularly in light of changing legal requirements, these rates should be reviewed by competent legal counsel with respect to compliance with Proposition 218 and related State laws prior to adoption, including language for new resolutions and public notices required to implement these rates.
- **Adopt Elevation Zone Surcharges:** Adopt the zonal surcharges shown in Figures 20 and 21; of the two options developed: (1) strictly volumetric surcharges and (2) a combination of fixed and volumetric surcharges, NBS recommends the combination of fixed and volumetric surcharges because they are the more equitable than strictly volumetric surcharges.
- **Implement Recommended Levels of Rate Increases and Proposed Rates:** Based on the analysis presented in this report, the City Council should implement the proposed water rates recommended in this report for the next five years as shown in Figure 7 and the wastewater rates proposed in Figure 14. These rate adjustments are structured based on industry standards and are necessary to ensure the following objectives are met:
  - Water rates promote revenue stability and reflect the cost of providing water service to each customer class.
  - Wastewater rates meet projected revenue requirements.
  - Establish zonal surcharges to recover the full cost of providing water and wastewater service to customers in higher elevation zones.
  - Maintaining the financial health of the City's water and wastewater utilities.

### NEXT STEPS

- **Annually Review Rates and Revenue** – Any time an Agency adopts new utility rates or rate structures, those new rates should be closely monitored over the next several years to ensure the revenue generated is sufficient to meet the annual revenue requirements. Changing economic and drought-related water consumption patterns underscore the need for this review, as well as potential and unseen changing revenue requirements, particularly those related to environmental regulations that can significantly affect capital improvements and repair and replacement costs.

*Note: The attached Technical Appendices provide detailed information on the analysis of the water and wastewater revenue requirements, cost of service and rate design analyses that have been summarized in this report.*

## **PRINCIPAL ASSUMPTIONS AND CONSIDERATIONS**

In preparing this report and the recommendations included herein, NBS has relied on a number of principal assumptions and considerations with regard to financial matters, number of customer accounts, conditions and events that may occur in the future. This information and assumptions, including the City's budgets and customer account information from City staff, were provided by sources we believe to be reliable, although NBS has not independently verified this data.

While we believe NBS' use of such information and assumptions is reasonable for the purpose of this report and its recommendations, some assumptions will invariably not materialize as stated herein or may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others.



## TECHNICAL APPENDICES

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### Brief Overview of the “San Juan Capistrano Case”:

On April 20, 2015, the California Superior Court ruling in the San Juan Capistrano case<sup>9</sup> created stricter standards for how tiered rates should be set under Prop 218 requirements. One of the lead attorneys for the defendant (City of San Juan Capistrano), Kelly Salt of Best Best & Krieger, provided the following guidance on what this case means for water rates:

*“Although the opinion in Capistrano Taxpayers Association v. City of San Juan Capistrano held that tiered rates, or inclining block rates that go up progressively in relation to usage, are compatible with Proposition 218, in this instance, the court concluded that the City failed to demonstrate that the tiers correspond to the actual cost of providing service at a given level of usage. The court rejected reliance on article X, section 2 to promote water conservation as the sole basis for establishing tiers, holding the city had to show that the various usage tiers corresponded with its actual costs of delivering water in those increments.”*

*and*

*“...rates were not proportional to the cost of service because the City did not calculate the incremental cost of providing water at the level of use represented by each tier. Specifically, the court criticized the City for not correlating its rates within each tier to the prices of water used within each tier.”<sup>10</sup>*

As a result of the San Juan Capistrano case, many water agencies with tiered rates have either eliminated their tiered rates in favor of a uniform rate, or revised their tiered rates to better comply with the standards related to the San Juan Capistrano case.

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<sup>9</sup> Capistrano Taxpayers Association, Inc. v. City of San Juan Capistrano, Opinion G048969, Super. Ct. No 30-2012-00594579, Filed April 20, 2015.

<sup>10</sup> See “Legal Alerts – California Court of Appeal Holds City’s Tiered Water Rate Structure Violates Proposition 218” by Kelly Salt, Best Best & Krieger, April 21, 2015.

## **APPENDIX A - ALTERNATIVE #1 WATER RATE ANALYSIS**

TABLE 1  
FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Sources of Water Funds</b>					
<b>Rate Revenue:</b>					
Standard Rate Revenue - Prevailing Rates <sup>1</sup>	\$ 7,329,555	\$ 7,476,146	\$ 8,703,075	\$ 8,877,136	\$ 9,054,679
<b>Non-Rate Revenue in Operations &amp; System Replacement Funds:</b>					
Interest Income <sup>2</sup>	47,138	3,182	3,451	6,223	16,070
Other, Non-Rate Revenues	1,111,704	939,388	923,229	948,840	962,224
<b>Total Sources of Funds</b>	<b>\$ 8,488,396</b>	<b>\$ 8,418,715</b>	<b>\$ 9,629,755</b>	<b>\$ 9,832,199</b>	<b>\$ 10,032,973</b>
<b>Uses of Water Funds</b>					
<b>Operating Expenses <sup>3</sup>:</b>					
Water Operations	\$ 7,241,771	\$ 7,509,564	\$ 8,143,747	\$ 8,440,968	\$ 8,719,355
Water Operations - Capital Expenses	889,151	817,661	819,815	822,013	824,256
Utility Billing	599,894	614,764	633,407	655,040	676,212
Water Conservation	188,239	103,798	106,900	110,116	113,423
Water Rate Stabilization Fund	603	624	645	668	691
Water System Replacement Fund	4,993	5,160	5,333	5,511	5,696
Subtotal: Operating Expenses	\$ 8,924,651	\$ 9,051,571	\$ 9,709,848	\$ 10,034,316	\$ 10,339,632
Other Expenditures:					
Existing Debt Service (Replacement Fund Allocation of 59%) <sup>4</sup>	\$ 939,538	\$ 945,549	\$ 944,774	\$ 943,336	\$ 944,184
New Debt Service	-	-	-	-	-
Rate-Funded Capital Expenses	-	-	419,639	1,109,361	1,148,410
Subtotal: Other Expenditures	\$ 939,538	\$ 945,549	\$ 1,364,413	\$ 2,052,697	\$ 2,092,595
<b>Total Uses of Water Funds</b>	<b>\$ 9,864,189</b>	<b>\$ 9,997,120</b>	<b>\$ 11,074,261</b>	<b>\$ 12,087,013</b>	<b>\$ 12,432,227</b>
plus: Revenue from Rate Increases <sup>5</sup>	404,271	1,496,029	2,498,782	3,377,134	4,350,880
<b>Increase/Decrease to Reserves</b>	<b>\$ (971,522)</b>	<b>\$ (82,376)</b>	<b>\$ 1,054,276</b>	<b>\$ 1,122,320</b>	<b>\$ 1,951,627</b>
<b>Net Revenue Reqtd. (Total Uses less Non-Rate Revenue)</b>	<b>\$ 8,705,347</b>	<b>\$ 9,054,551</b>	<b>\$ 10,147,581</b>	<b>\$ 11,131,951</b>	<b>\$ 11,453,933</b>
<b>Total Rate Revenue After Rate Increases</b>	<b>\$ 7,733,825</b>	<b>\$ 8,972,175</b>	<b>\$ 11,201,856</b>	<b>\$ 12,254,271</b>	<b>\$ 13,405,560</b>
<b>Projected Annual Rate Revenue Increase</b>	<b>9.00%</b>	<b>7.25%</b>	<b>7.25%</b>	<b>7.25%</b>	<b>7.25%</b>
Cumulative Increase from Annual Revenue Increases	15.81%	24.21%	33.21%	42.87%	53.23%
<b>Debt Coverage After Rate Increase <sup>6</sup></b>	<b>1.59</b>	<b>1.87</b>	<b>2.62</b>	<b>3.10</b>	<b>3.61</b>
<b>Target Debt Coverage</b>	<b>1.20</b>	<b>1.20</b>	<b>1.20</b>	<b>1.20</b>	<b>1.20</b>
<b>Estimated Annual Change in Rate Revenue Due to Conservation <sup>7</sup></b>	<b>-18%</b>	<b>2%</b>	<b>16%</b>	<b>2%</b>	<b>2%</b>

- City's revenue projections were updated to assume 30% conservation effective FY 2015/16 and beyond with 2% annual growth.
- Interest earnings for FY 2015/16 are per the City's budget projections. For all future years, interest earnings are calculated here based on historical LAIF returns and projected cash balances.
- The FY16-FY20 operating expenses are per the City's budget projections. Inflationary factors are applied to these expenses to project costs in FY21 and beyond.
- Per Staff's direction in an email on 10.7.15, the debt service payment on the 2014 Water Revenue Bonds is split as follows:  
41% to the Water Impact Fund (651) and 59% to the Water System Replacement Fund (653).
- Revenue from rate increases in FY 2015/16 assumes previously approved rates are implemented on 1/1/2016, so the City will collect 6 months of the increased rate revenue for the first year of the adjustment. The rate increase for shown for FY 2016/17 will be effective July 1, 2016, and that all future rate increases will occur on January 1st in 2017 and beyond.
- Per the Installment Loan Agreement for the 2014 Revenue Bonds, the City is required to maintain a debt coverage ratio of 1.20 for these bond issues and all other parity debt. Connection Fee revenue and interest earnings in that fund are figured into this calculation.
- Per City Staff rate revenue projections. An overall decrease in rate revenue of 18% is expected in FY 2015/16 and a rebound in consumption in FY 2017/18.

TABLE 2  
RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Total Beginning Cash <sup>1</sup></b>	<b>\$ 6,482,485</b>				
<b>Water Operations Fund (650)</b>					
Beginning Reserve Balance <sup>1</sup>	\$ 2,744,148	\$ 1,272,626	\$ 690,250	\$ 1,244,526	\$ 2,142,638
Plus: Net Cash Flow (After Rate Increases)	(971,522)	(82,376)	1,054,276	1,122,320	1,951,627
Plus: Transfer of Debt Reserve Surplus	-	-	-	-	-
Plus: Transfer of Rate Stabilization Reserve Surplus	-	-	-	100,792	22,807
Less: Transfer Out to Water System Replacement Reserve	-	-	-	-	(1,532,072)
Less: Transfer Out to Rate Stabilization Fund	(500,000)	(500,000)	(500,000)	(325,000)	(45,000)
<b>Ending Operating Reserve Balance</b>	<b>\$ 1,272,626</b>	<b>\$ 690,250</b>	<b>\$ 1,244,526</b>	<b>\$ 2,142,638</b>	<b>\$ 2,540,000</b>
<b>Target Ending Balance (90-days of O&amp;M) <sup>2</sup></b>	<b>\$ 2,231,000</b>	<b>\$ 2,263,000</b>	<b>\$ 2,427,000</b>	<b>\$ 2,509,000</b>	<b>\$ 2,585,000</b>
<b>Water System Replacement Fund (653)</b>					
Beginning Reserve Balance <sup>1</sup>	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: Grant Proceeds	-	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	-	-	-	-	1,532,072
Less: Use of Reserves for Capital Projects	-	-	-	-	-
<b>Ending Capital Improvement &amp; Depreciation Reserve Bal.</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,532,072</b>
<b>Target Ending Balance (3% of Assets) <sup>3</sup></b>	<b>\$ 1,407,700</b>	<b>\$ 1,399,400</b>	<b>\$ 1,426,500</b>	<b>\$ 1,437,600</b>	<b>\$ 1,436,900</b>
<b>Rate Stabilization Fund (652)</b>					
Beginning Reserve Balance <sup>1</sup>	\$ 36,785	\$ 536,968	\$ 1,038,310	\$ 1,543,502	\$ 1,775,427
Plus: Contributions to Rate Stabilization Fund	500,000	500,000	500,000	325,000	45,000
Plus: Interest Earnings <sup>4</sup>	183	1,342	5,192	7,718	13,316
Less: Transfer of Surplus to Operating Reserve	-	-	-	(100,792)	(22,807)
<b>Ending Debt Reserve Balance</b>	<b>\$ 536,968</b>	<b>\$ 1,038,310</b>	<b>\$ 1,543,502</b>	<b>\$ 1,775,427</b>	<b>\$ 1,810,936</b>
<b>Target Ending Balance (20% of Estimated Revenue) <sup>2</sup></b>	<b>\$ 1,465,911</b>	<b>\$ 1,495,229</b>	<b>\$ 1,740,615</b>	<b>\$ 1,775,427</b>	<b>\$ 1,810,936</b>
<b>Ending Balance - Excludes Debt Reserve</b>	<b>\$ 1,809,594</b>	<b>\$ 1,728,560</b>	<b>\$ 2,788,028</b>	<b>\$ 3,918,065</b>	<b>\$ 5,883,008</b>
<b>Minimum Target Ending Balance - Excludes Debt Reserve</b>	<b>\$ 5,104,611</b>	<b>\$ 5,157,629</b>	<b>\$ 5,594,115</b>	<b>\$ 5,722,027</b>	<b>\$ 5,832,836</b>
<b>Ending Surplus/(Deficit) Compared to Reserve Targets</b>	<b>\$ (3,295,017)</b>	<b>\$ (3,429,069)</b>	<b>\$ (2,806,087)</b>	<b>\$ (1,803,962)</b>	<b>\$ 50,172</b>
<b>Days Cash on Hand for Unrestricted Funds <sup>5</sup></b>	<b>67</b>	<b>64</b>	<b>96</b>	<b>131</b>	<b>191</b>

**CITY OF MORGAN HILL**  
**WATER RATE STUDY**  
**Financial Plan and Reserve Projections**  
**Draft Copy - Subject to Revision**

**Financial Plan & Reserve Summary**

SUMMARY OF CASH ACTIVITY, continued	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Restricted Reserves:</b>					
<b>Impact Fund (651)</b>					
Beginning Reserve Balance <sup>1</sup>	\$ 3,701,552	\$ 4,712,114	\$ 4,272,254	\$ 3,336,685	\$ 2,953,156
Plus: Interest Earnings <sup>4</sup>	24,641	11,780	21,361	16,683	22,149
Plus: Impact Fee Revenue <sup>6</sup>	1,652,888	1,306,776	935,980	935,980	883,000
Less: Annual Operating Expenditures	(14,067)	(14,380)	(14,704)	(15,037)	(15,382)
Less: Debt Service (Impact Fund Allocation of 41%)	(652,899)	(657,076)	(656,538)	(655,539)	(656,128)
Less: Use of Reserves for Capital Projects	-	(1,086,960)	(1,221,669)	(665,616)	(229,682)
<b>Ending Connection Fee Fund Balance</b>	<b>\$ 4,712,114</b>	<b>\$ 4,272,254</b>	<b>\$ 3,336,685</b>	<b>\$ 2,953,156</b>	<b>\$ 2,957,112</b>
<i>Annual Interest Earnings Rate <sup>5</sup></i>	<i>0.25%</i>	<i>0.25%</i>	<i>0.50%</i>	<i>0.50%</i>	<i>0.75%</i>
<b>Bond Project Fund</b>					
Beginning Reserve Balance	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: Loan Financing	-	-	-	-	-
Plus: Revenue Bond Proceeds	-	-	-	-	-
Less: Use of Bond & Loan Funds for Capital Projects	-	-	-	-	-
<b>Ending Bond Project Fund Balance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Target Ending Balance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Debt Reserve</b>					
Beginning Reserve Balance	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: Reserve Funding from New Debt Obligations	-	-	-	-	-
Plus: Interest Earnings	-	-	-	-	-
Less: Transfer of Surplus to Operating Reserve	-	-	-	-	-
<b>Ending Debt Reserve Balance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Target Ending Balance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

1. Total beginning cash is the sum of the projected cash balances in Funds 650, 651, 652, and 653, as of 07/01/2015;

Cash Balances - Budget Pages.xls file provided by City Staff.

2. Reserve targets are set according to existing City policy.

3. The Water System Replacement reserve target is set to 3% of net assets.

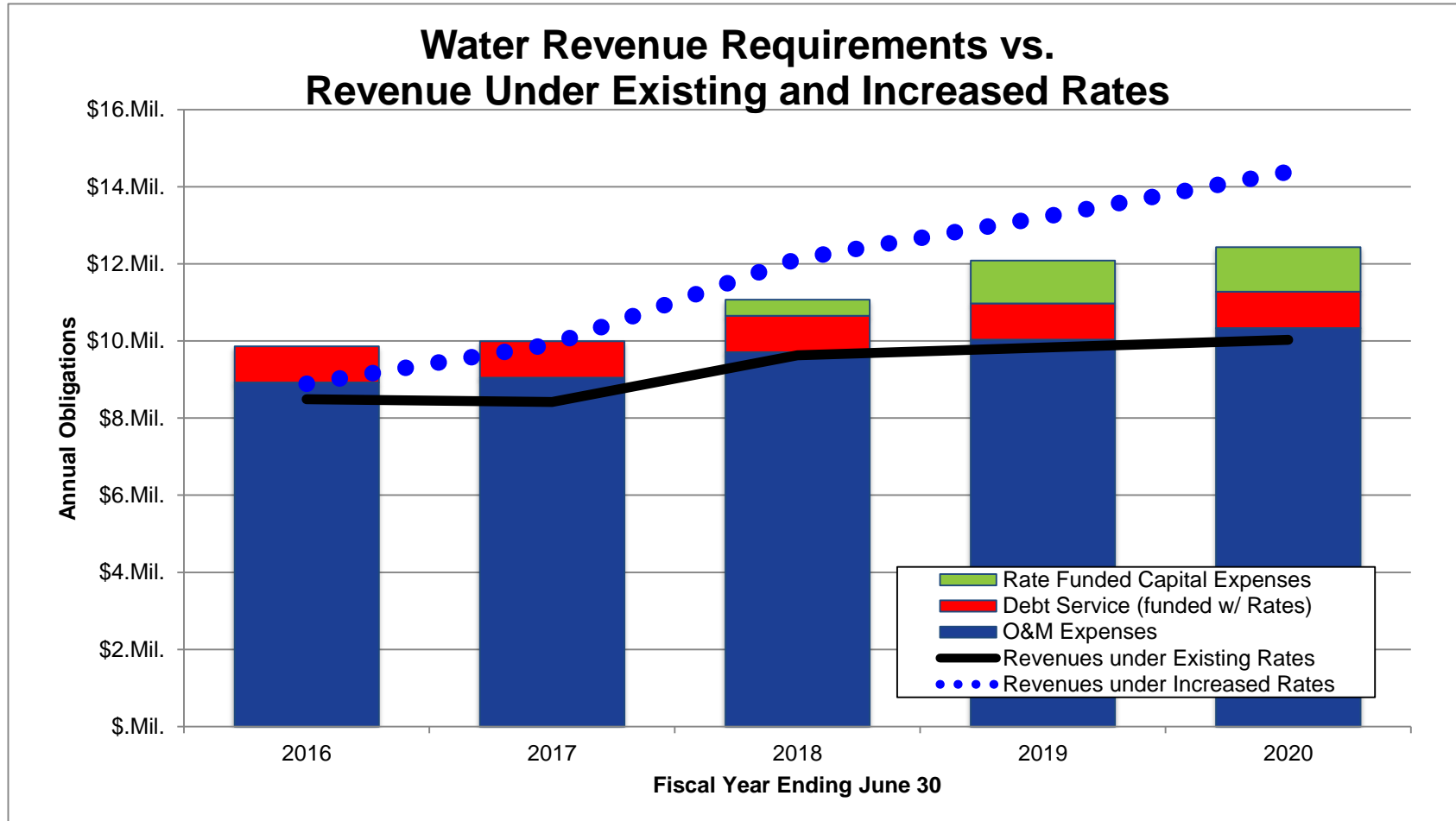
4. Interest earnings are per the City's adopted budget for FY 2015/16, and calculated herein for all future years,

per historical interest earning rates for funds invested in LAIF as referenced on the California Treasurer's Office website.

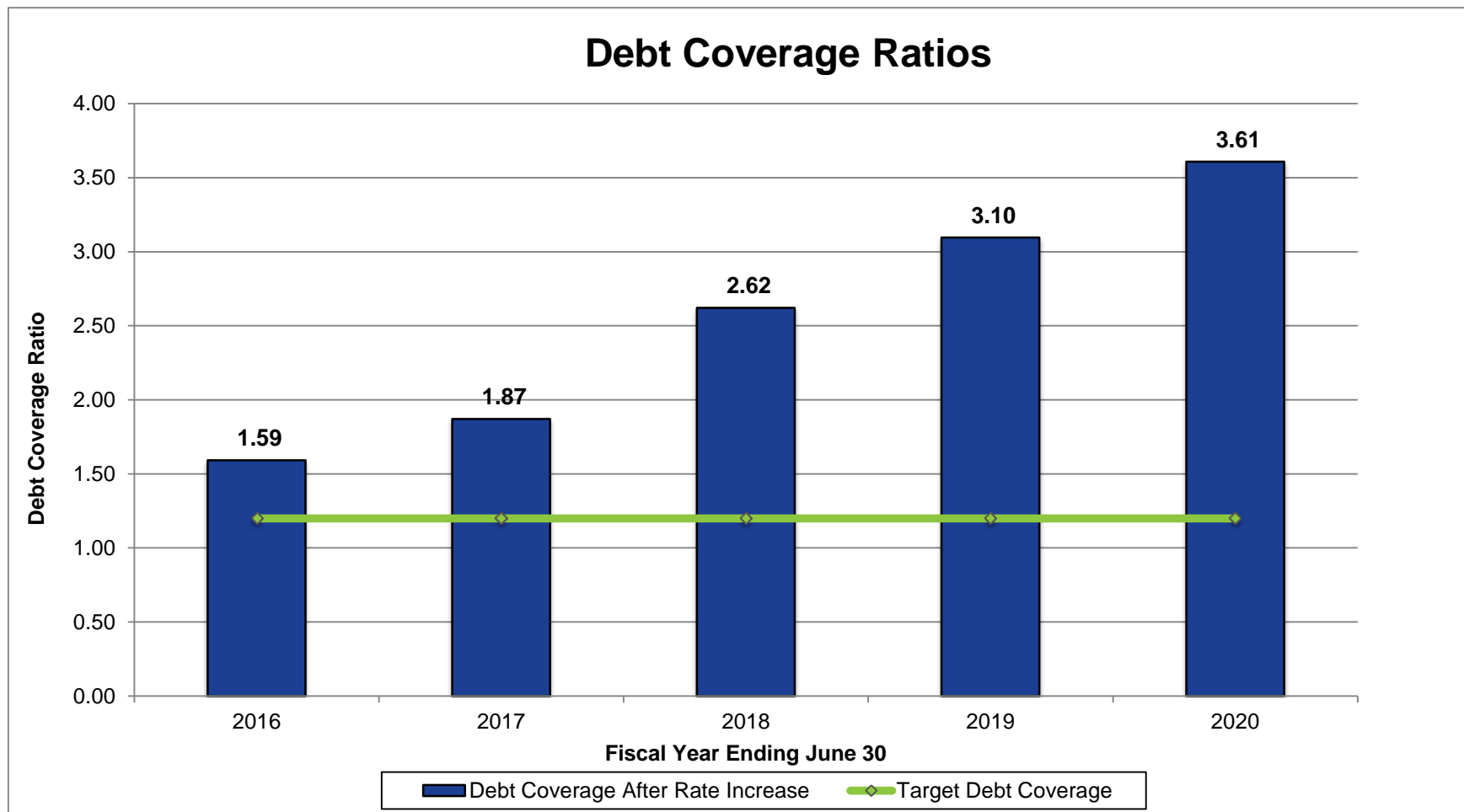
Future years earnings were conservatively estimated and phase into the historical 10 year average interest earnings rate.

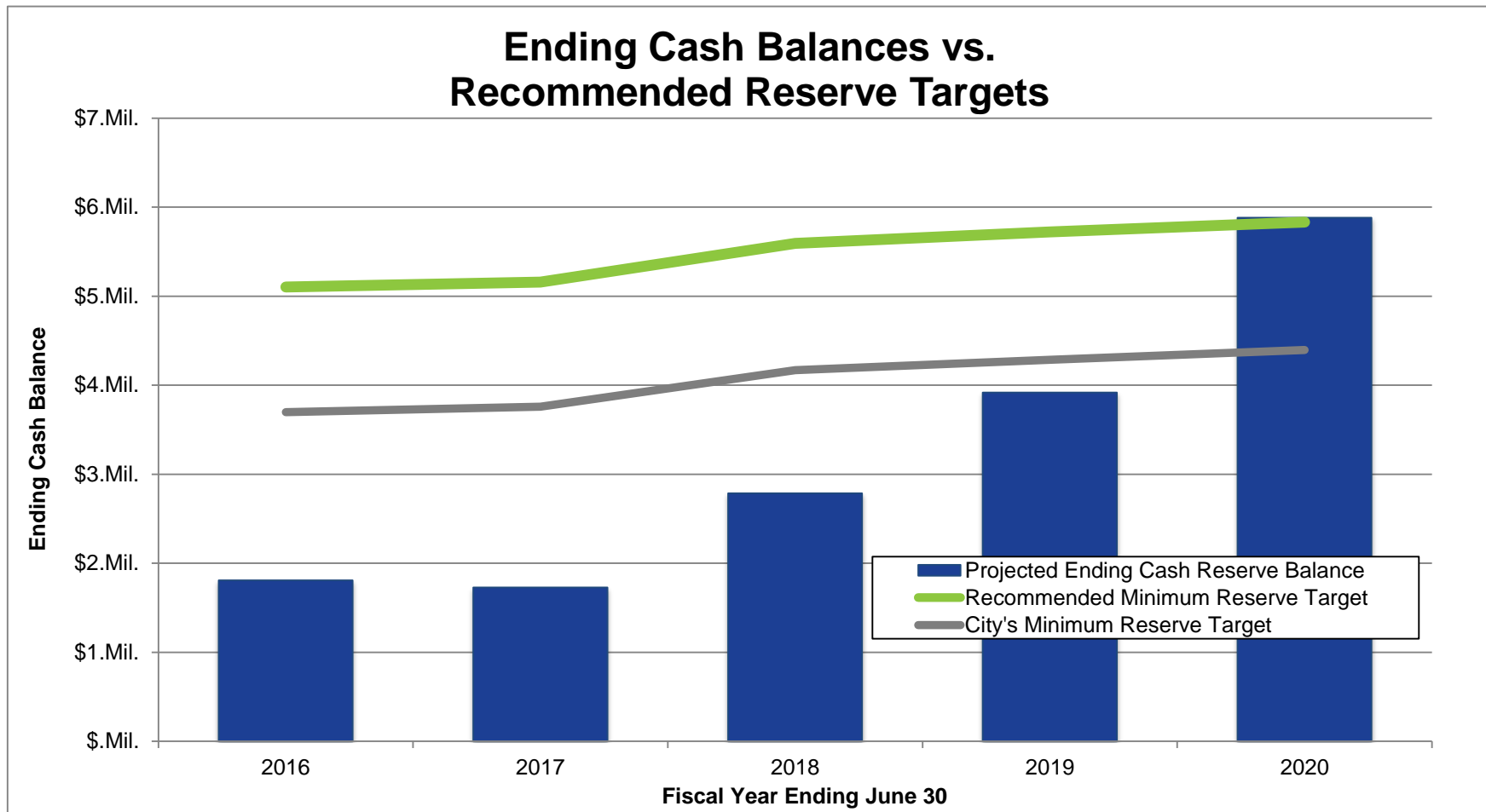
5. Days cash on hand represents the number of days cash the City has available to cover operating expenses and debt service payments.

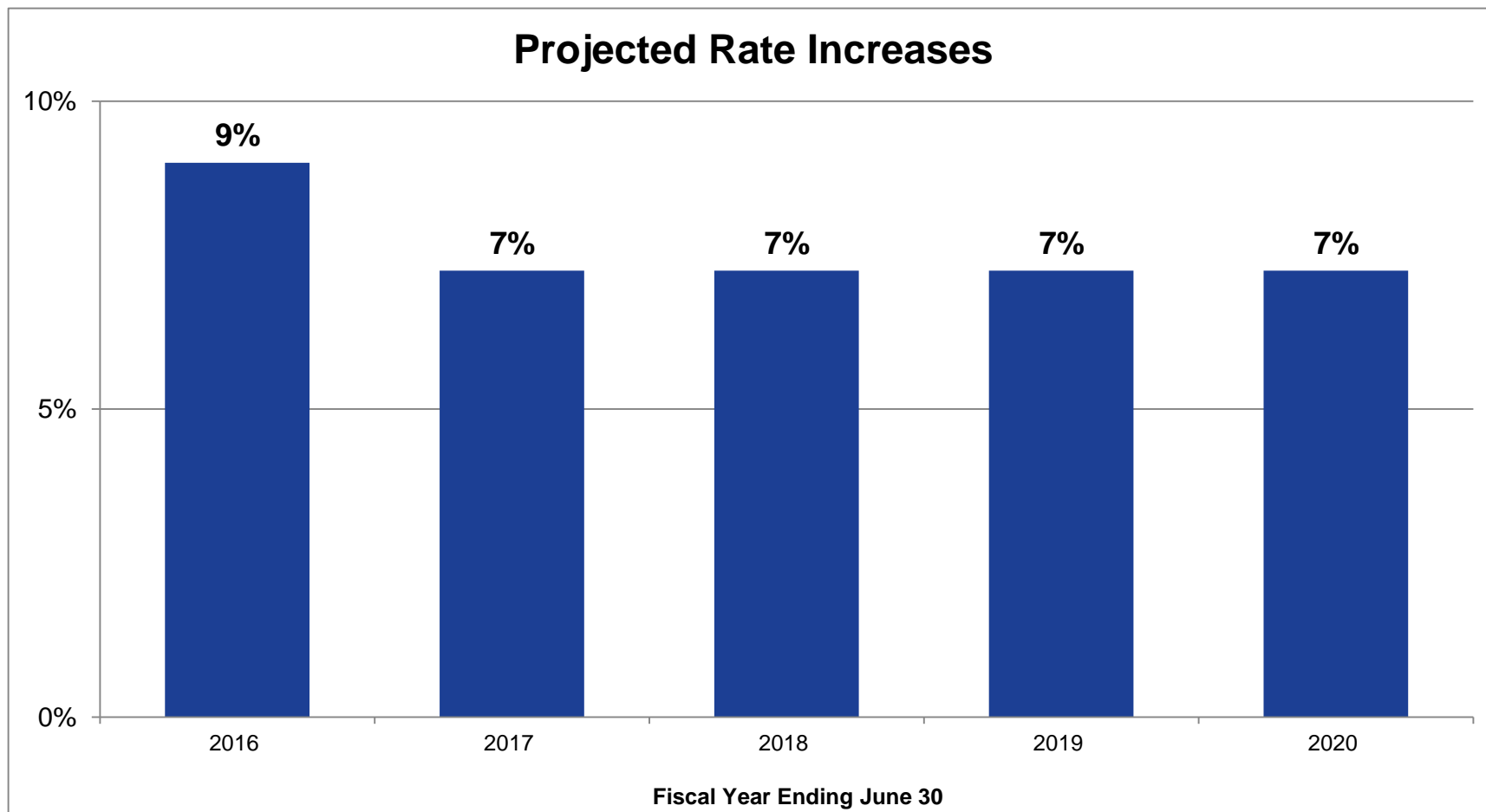
6. Impact fee revenue projections for FY 2015/16 - 2019/20 are from the following file: Operating Budget FY 2013-14 to FY 2015-16.xls.











**CITY OF MORGAN HILL**  
**WATER RATE STUDY**  
**Operating Revenue and Expenses**  
**Draft Copy - Subject to Revision**

**EXHIBIT 1**

**REVENUE FORECAST <sup>1</sup>**

<b>WATER OPERATIONS</b>	<b>Basis</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Water Operations Fund (650)</b>						
INTEREST INCOME <sup>2</sup>	See FP	\$ 18,090	\$ -	\$ -	\$ -	\$ -
RENT & CONCESSIONS	6	\$ 70,147	\$ 72,747	\$ 75,435	\$ 78,268	\$ 81,162
WATER SALES <sup>3</sup>	1	\$ 7,329,555	\$ 7,476,146	\$ 8,703,075	\$ 8,877,136	\$ 9,054,679
FRONT FOOTAGE/OFFSITE	6	\$ 52,500	\$ 52,500	\$ 52,500	\$ 52,500	\$ 52,500
PERCHLORATE SURCHARGE	6	\$ -	\$ -	\$ -	\$ -	\$ -
UB COLLECTIONS	6	\$ 2,060	\$ 2,122	\$ 2,185	\$ 2,251	\$ 2,319
METER INSTALL & SERVICE	1	\$ 215,325	\$ 168,300	\$ 131,175	\$ 131,175	\$ 123,750
FIRE HYDRANT CHARGE	6	\$ 50,000	\$ 51,000	\$ 52,530	\$ 54,106	\$ 55,729
OTHER REVENUE	6	\$ -	\$ -	\$ -	\$ -	\$ -
REIMBURSEMENT OF EXPENSES	6	\$ 20,600	\$ 21,218	\$ 21,855	\$ 22,510	\$ 23,185
MISC. SALES	6	\$ -	\$ -	\$ -	\$ -	\$ -
SURPLUS SALES	6	\$ -	\$ -	\$ -	\$ -	\$ -
MISC. REVENUE	6	\$ -	\$ -	\$ -	\$ -	\$ -
ANNUAL BACKFLOW INSPECTION	6	\$ -	\$ -	\$ -	\$ -	\$ -
UTILITY ACCOUNT SET-UP	1	\$ 56,650	\$ 58,350	\$ 60,100	\$ 61,903	\$ 63,760
CONSTRUCTION BACKFLOW INSPECTION	6	\$ 412	\$ 424	\$ 437	\$ 450	\$ 464
CONST.INSPECT.-BACKFLOW	6	\$ -	\$ -	\$ -	\$ -	\$ -
UTILITY BILL DELINQ CHR	1	\$ 20,600	\$ 21,218	\$ 21,855	\$ 22,510	\$ 23,185
DELINQUENT BILL CHARGE	1	\$ 114,493	\$ 119,064	\$ 120,776	\$ 121,717	\$ 124,135
UTILITY SERVICE CALL	1	\$ 59,508	\$ 63,233	\$ 65,848	\$ 72,100	\$ 72,100
CHGS-CURR/PLANS & SPECS	6	\$ -	\$ -	\$ -	\$ -	\$ -
TRANSFER FROM-640 (SEWER OPS)	6	\$ 316,409	\$ 309,212	\$ 318,533	\$ 329,350	\$ 339,935
TRANSFER FROM-653 (WATER CIP) <sup>2</sup>	See FP	\$ -	\$ -	\$ -	\$ -	\$ -
TRANSFER FROM-652 (WATER STABL) <sup>2</sup>	See FP	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Water Impact Fund (651)</b>						
INTEREST INCOME <sup>2</sup>	See FP	\$ 24,641	\$ -	\$ -	\$ -	\$ -
DEVELOPMENT IMPACT FEES (AB1600)	6	\$ 1,652,888	\$ 1,306,776	\$ 935,980	\$ 935,980	\$ 883,000
OTHER REVENUE	6	\$ -	\$ -	\$ -	\$ -	\$ -
BOND PROCEEDS	6	\$ -	\$ -	\$ -	\$ -	\$ -
CHGS-CURR/PLANS & SPECS	6	\$ -	\$ -	\$ -	\$ -	\$ -
TRANSFER FROM-653 (WATER CIP) <sup>2</sup>	See FP	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Water Rate Stabilization Fund (652)</b>						
INTEREST INCOME <sup>2</sup>	See FP	\$ 183	\$ -	\$ -	\$ -	\$ -
<b>Water System Replacement Fund (653)</b>						
INTEREST INCOME <sup>2</sup>	See FP	\$ 29,048	\$ -	\$ -	\$ -	\$ -
OTHER REVENUE	6	\$ -	\$ -	\$ -	\$ -	\$ -
BOND PROCEEDS	6	\$ -	\$ -	\$ -	\$ -	\$ -
CAPITAL CONTRIBUTIONS	6	\$ 133,000	\$ -	\$ -	\$ -	\$ -
CHGS-CURR/PLANS & SPECS	6	\$ -	\$ -	\$ -	\$ -	\$ -
TRANSFER FROM-650 (WATER OPS) <sup>2</sup>	See FP	\$ -	\$ -	\$ -	\$ -	\$ -
SPECIAL DEPOSITS	6	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TOTAL: REVENUE</b>		<b>\$10,166,108</b>	<b>\$ 9,722,309</b>	<b>\$10,562,284</b>	<b>\$10,761,956</b>	<b>\$10,899,904</b>

**REVENUE SUMMARY:**

<b>WATER OPERATIONS</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b><i>Water Operations Fund (650)</i></b>					
WATER RATE REVENUE	\$ 7,329,555	\$ 7,476,146	\$ 8,703,075	\$ 8,877,136	\$ 9,054,679
INTEREST INCOME <sup>2</sup>	\$ 18,090	\$ -	\$ -	\$ -	\$ -
OTHER REVENUE	\$ 978,704	\$ 939,388	\$ 923,229	\$ 948,840	\$ 962,224
<b><i>Water Impact Fund (651)</i></b>					
IMPACT FEE REVENUE	\$ 1,652,888	\$ 1,306,776	\$ 935,980	\$ 935,980	\$ 883,000
INTEREST INCOME <sup>2</sup>	\$ 24,641	\$ -	\$ -	\$ -	\$ -
<b><i>Water Rate Stabilization Fund (652)</i></b>					
INTEREST INCOME <sup>2</sup>	\$ 183	\$ -	\$ -	\$ -	\$ -
<b><i>Water System Replacement Fund (653)</i></b>					
SYSTEM REPLACEMENT REVENUE	\$ 133,000	\$ -	\$ -	\$ -	\$ -
INTEREST INCOME <sup>2</sup>	\$ 29,048	\$ -	\$ -	\$ -	\$ -

**CITY OF MORGAN HILL**  
**WATER RATE STUDY**  
**Operating Revenue and Expenses**  
**Draft Copy - Subject to Revision**

**EXHIBIT 1**

**OPERATING EXPENSE FORECAST<sup>1</sup> :**

<b>WATER OPERATIONS FUND, Operations</b>	<b>Basis</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>SALARIES</b>						
SALARIES - GENERAL	3	\$ 1,558,185	\$ 1,597,346	\$ 1,636,743	\$ 1,677,124	\$ 1,718,515
SALARIES - PART-TIME TEMP	3	\$ -	\$ -	\$ -	\$ -	\$ -
EARNED LEAVE LIABILITY	3	\$ 20,512	\$ 20,512	\$ 20,512	\$ 20,512	\$ 20,512
OVERTIME - GENERAL	3	\$ 74,263	\$ 76,491	\$ 78,786	\$ 81,149	\$ 83,584
UNEMPLOYMENT INSURANCE	3	\$ -	\$ -	\$ -	\$ -	\$ -
RETIREMENT - GENERAL	3	\$ 278,043	\$ 294,583	\$ 307,577	\$ 321,874	\$ 335,832
DEFERRED COMPENSATION	3	\$ 31,164	\$ 31,947	\$ 32,735	\$ 33,542	\$ 34,370
GROUP INSURANCE	3	\$ 275,455	\$ 289,178	\$ 303,587	\$ 318,716	\$ 334,602
MEDICARE	3	\$ 23,718	\$ 24,318	\$ 24,923	\$ 25,543	\$ 26,178
INCOME PROTECTION INS	3	\$ 14,763	\$ 14,763	\$ 14,763	\$ 14,763	\$ 14,763
WORKERS COMP	3	\$ 79,751	\$ 49,817	\$ 51,056	\$ 52,326	\$ 53,628
BENEFITS	3	\$ 3,296	\$ 3,296	\$ 3,296	\$ 3,296	\$ 3,296
UNIFORM	3	\$ 9,548	\$ 9,835	\$ 10,130	\$ 10,433	\$ 10,746
<b>SUPPLIES</b>						
TAXES	6	\$ -	\$ -	\$ -	\$ -	\$ -
ELECTRIC	4	\$ 760,000	\$ 782,800	\$ 802,284	\$ 830,473	\$ 830,473
<b>GROUNDWATER PRODUCTION<sup>4</sup></b>	<b>2</b>	<b>\$ 2,227,267</b>	<b>\$ 2,358,651</b>	<b>\$ 2,845,753</b>	<b>\$ 2,981,606</b>	<b>\$ 3,124,609</b>
WATER/SEWER	2	\$ 2,758	\$ 2,841	\$ 2,926	\$ 3,014	\$ 3,105
TELEPHONE	2	\$ 21,218	\$ 21,855	\$ 22,510	\$ 23,185	\$ 23,881
GASOLINE & OIL	2	\$ 50,923	\$ 52,451	\$ 54,024	\$ 55,645	\$ 57,315
CONTRACT SERVICES	2	\$ 369,563	\$ 381,485	\$ 392,930	\$ 404,717	\$ 416,859
BANK CARD SERVICE FEES	2	\$ 438	\$ 451	\$ 464	\$ 478	\$ 493
RENTALS - OUTSIDE	2	\$ 2,652	\$ 2,732	\$ 2,814	\$ 2,898	\$ 2,985
STATIONERY & OFFICE SUPPLIES	2	\$ 9,548	\$ 9,835	\$ 10,130	\$ 10,433	\$ 10,746
COMPUTER HARDWARE-NON CAPITAL	2	\$ 4,774	\$ 4,917	\$ 5,065	\$ 5,217	\$ 5,373
COMPUTER SOFTWARE-NON CAPITAL	2	\$ 13,261	\$ 13,659	\$ 14,069	\$ 14,491	\$ 14,926
OTHER SUPPLIES	2	\$ 213,200	\$ 230,926	\$ 237,854	\$ 244,989	\$ 252,339
ADVERTISING	2	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194
PHOTOCOPYING	2	\$ 106	\$ 109	\$ 113	\$ 116	\$ 119
POSTAGE & FREIGHT	2	\$ 6,545	\$ 1,741	\$ 1,794	\$ 1,847	\$ 1,903
PRINTING	2	\$ 2,122	\$ 2,185	\$ 2,251	\$ 2,319	\$ 2,388
AUTO MILEAGE	2	\$ 265	\$ 273	\$ 281	\$ 290	\$ 299
WATER/SEWER MAINTENANCE SVS	2	\$ 43,045	\$ 54,636	\$ 56,275	\$ 57,964	\$ 59,703
SMALL TOOLS	2	\$ 10,609	\$ 10,927	\$ 11,255	\$ 11,593	\$ 11,941
OTHER EXPENSE	2	\$ 38,000	\$ 39,140	\$ 40,314	\$ 41,524	\$ 42,769
TRAINING & EDUCATION	2	\$ 19,096	\$ 19,669	\$ 20,259	\$ 20,867	\$ 21,493
CONFERENCE & MEETINGS	2	\$ 3,183	\$ 3,278	\$ 3,377	\$ 3,478	\$ 3,582
MEMBERSHIP & DUES	2	\$ 15,914	\$ 16,391	\$ 16,883	\$ 17,389	\$ 17,911
SUBSCRIPTION & PUBLICATIONS	2	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239
MAINT - BLDGS/IMPROVEMENTS	2	\$ 15,914	\$ 16,391	\$ 16,883	\$ 17,389	\$ 17,911
MAINT - MACHINE/EQUIPMENT	2	\$ 10,609	\$ 10,927	\$ 11,255	\$ 11,593	\$ 11,941
MAINT - AUTO/TRUCKS	2	\$ 26,523	\$ 27,318	\$ 28,138	\$ 28,982	\$ 29,851
<b>SUB-TOTAL: WATER OPERATIONS FUND, Operations</b>		<b>\$ 6,237,504</b>	<b>\$ 6,478,986</b>	<b>\$ 7,085,357</b>	<b>\$ 7,353,167</b>	<b>\$ 7,602,372</b>

CITY OF MORGAN HILL  
WATER RATE STUDY  
Operating Revenue and Expenses  
Draft Copy - Subject to Revision

**EXHIBIT 1**

OPERATING EXPENSE FORECAST, continued <sup>1</sup> :

WATER OPERATIONS FUND, Operations, continued	Basis	2016	2017	2018	2019	2020
<b>CAPITAL</b>						
MACHINERY/EQUIPMENT	2	\$ 86,700	\$ 88,434	\$ 90,203	\$ 92,007	\$ 93,847
COMPUTER EQUIPMENT	2	\$ 5,253	\$ 5,358	\$ 5,465	\$ 5,575	\$ 5,686
COMPUTER SOFTWARE	2	\$ 13,658	\$ 13,931	\$ 14,210	\$ 14,494	\$ 14,784
METERS	2	\$ 550,000	\$ 650,000	\$ 650,000	\$ 650,000	\$ 650,001
<b>INTERNAL SERVICES</b>						
GENERAL LIABILITY INSURANCE	2	\$ 75,750	\$ 83,325	\$ 91,658	\$ 100,823	\$ 110,906
BUILDING MAINT - CURRENT SERVICES	2	\$ 54,220	\$ 55,846	\$ 57,522	\$ 59,247	\$ 61,025
BUILDING MAINT - FUTURE REPLACEMENT	2	\$ 2,670	\$ 2,750	\$ 2,832	\$ 2,917	\$ 3,005
FLEET REPLACEMENT	2	\$ 233,540	\$ 59,938	\$ 59,938	\$ 59,938	\$ 59,938
INFO SYSTEM SERVICES	2	\$ 116,855	\$ 120,361	\$ 123,972	\$ 127,691	\$ 131,521
GF ADMIN	2	\$ 205,534	\$ 212,727	\$ 220,173	\$ 227,879	\$ 235,855
<b>TRANSFERS</b>						
TRANSFER OUT-010 (GENERAL FUND)	2	\$ 436,623	\$ 437,722	\$ 438,854	\$ 440,019	\$ 441,220
TRANSFER OUT-232 (ENVIRONMENTAL PROGRAMS)	2	\$ 56,931	\$ 58,758	\$ 60,632	\$ 62,542	\$ 62,542
TRANSFER OUT-207 (GENL PLAN UPDATE)	2	\$ 10,300	\$ 10,300	\$ 10,300	\$ 10,300	\$ 10,300
TRANSFER OUT - EMPLOYEE BENEFITS FUND	3	\$ 45,385	\$ 48,789	\$ 52,448	\$ 56,381	\$ 60,610
<b>SUB-TOTAL: WATER OPERATIONS FUND, Operations</b>		<b>\$ 1,893,418</b>	<b>\$ 1,848,239</b>	<b>\$ 1,878,205</b>	<b>\$ 1,909,813</b>	<b>\$ 1,941,239</b>
<b>TOTAL: WATER OPERATIONS FUND, Operations</b>		<b>\$ 8,130,922</b>	<b>\$ 8,327,225</b>	<b>\$ 8,963,562</b>	<b>\$ 9,262,981</b>	<b>\$ 9,543,611</b>



CITY OF MORGAN HILL  
WATER RATE STUDY  
Operating Revenue and Expenses  
Draft Copy - Subject to Revision

**EXHIBIT 1**

**OPERATING EXPENSE FORECAST, continued <sup>1</sup> :**

<b>WATER OPERATIONS FUND, Utility Billing</b>	<b>Basis</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>SALARIES</b>						
SALARIES - GENERAL	3	\$ 217,289	\$ 224,669	\$ 229,421	\$ 236,043	\$ 241,944
SALARIES - PART-TIME TEMP	3	\$ -	\$ -	\$ -	\$ -	\$ -
EARNED LEAVE LIABILITY	3	\$ 4,385	\$ 4,385	\$ 4,385	\$ 4,385	\$ 4,385
OVERTIME - GENERAL	3	\$ -	\$ -	\$ -	\$ -	\$ -
UNEMPLOYMENT INSURANCE	3	\$ -	\$ -	\$ -	\$ -	\$ -
RETIREMENT - GENERAL	3	\$ 42,198	\$ 41,434	\$ 43,113	\$ 45,301	\$ 47,281
DEFERRED COMPENSATION	3	\$ 3,212	\$ 3,331	\$ 3,397	\$ 3,500	\$ 3,588
GROUP INSURANCE	3	\$ 51,825	\$ 55,129	\$ 57,878	\$ 60,764	\$ 63,794
MEDICARE	3	\$ 3,170	\$ 3,277	\$ 3,345	\$ 3,442	\$ 3,527
INCOME PROTECTION INS	3	\$ 2,345	\$ 2,345	\$ 2,345	\$ 2,345	\$ 2,345
WORKERS COMP	3	\$ 10,864	\$ 6,740	\$ 6,883	\$ 7,081	\$ 7,258
BENEFITS	3	\$ 1,302	\$ 1,302	\$ 1,302	\$ 1,302	\$ 1,302
CONTRACT LABOR	3	\$ -	\$ -	\$ -	\$ -	\$ -
<b>SUPPLIES</b>						
TELEPHONE	2	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970
CONTRACT SERVICES	2	\$ 50,071	\$ 51,573	\$ 53,120	\$ 54,714	\$ 56,355
BANK CARD SERVICE FEES	2	\$ 59,489	\$ 61,274	\$ 63,112	\$ 65,005	\$ 66,955
STATIONERY & OFFICE SUPPLIES	2	\$ 1,273	\$ 1,311	\$ 1,351	\$ 1,391	\$ 1,433
COMPUTER HARDWARE-NON CAPITAL	2	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126
OTHER SUPPLIES	2	\$ -	\$ -	\$ -	\$ -	\$ -
ADVERTISING	2	\$ -	\$ -	\$ -	\$ -	\$ -
PHOTOCOPYING	2	\$ 115	\$ 118	\$ 122	\$ 125	\$ 129
POSTAGE & FREIGHT	2	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964	\$ 59,703
PRINTING	2	\$ 849	\$ 874	\$ 900	\$ 927	\$ 955
AUTO MILEAGE	2	\$ -	\$ -	\$ -	\$ -	\$ -
TRAINING & EDUCATION	2	\$ 743	\$ 765	\$ 788	\$ 811	\$ 836
SUBSCRIPTION & PUBLICATIONS	2	\$ -	\$ -	\$ -	\$ -	\$ -
<b>INTERNAL SERVICES</b>						
GENERAL LIABILITY INSURANCE	2	\$ 5,769	\$ 6,346	\$ 6,980	\$ 7,679	\$ 8,446
BUILDING MAINT - CURRENT SERVICES	2	\$ 6,608	\$ 6,806	\$ 7,010	\$ 7,221	\$ 7,437
BUILDING MAINT - FUTURE REPLACEMENT	2	\$ 1,096	\$ 1,129	\$ 1,163	\$ 1,198	\$ 1,234
INFO SYSTEM SERVICES	2	\$ 25,230	\$ 25,987	\$ 26,767	\$ 27,570	\$ 28,397
GF ADMIN	2	\$ 45,673	\$ 47,271	\$ 48,926	\$ 50,638	\$ 52,411
<b>TRANSFERS</b>						
TRANSFER OUT - EMPLOYEE BENEFITS FUND	3	\$ 7,039	\$ 7,567	\$ 8,135	\$ 8,745	\$ 9,401
<b>TOTAL: WATER OPERATIONS FUND, Utility Billing</b>		<b>\$ 599,894</b>	<b>\$ 614,764</b>	<b>\$ 633,407</b>	<b>\$ 655,040</b>	<b>\$ 676,212</b>

CITY OF MORGAN HILL  
WATER RATE STUDY  
Operating Revenue and Expenses  
Draft Copy - Subject to Revision

**EXHIBIT 1**

**OPERATING EXPENSE FORECAST, continued <sup>1</sup> :**

<b>WATER OPERATIONS FUND, Water Conservation</b>	<b>Basis</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>SALARIES</b>						
SALARIES - GENERAL	3	\$ 28,017	\$ 28,979	\$ 29,704	\$ 30,446	\$ 31,208
SALARIES - PART-TIME TEMP	3	\$ 10,640	\$ -	\$ -	\$ -	\$ -
EARNED LEAVE LIABILITY	3	\$ 1,902	\$ 1,902	\$ 1,902	\$ 1,902	\$ 1,902
UNEMPLOYMENT INSURANCE	3	\$ -	\$ -	\$ -	\$ -	\$ -
RETIREMENT - GENERAL	3	\$ 4,999	\$ 5,344	\$ 5,582	\$ 5,843	\$ 6,099
DEFERRED COMPENSATION	3	\$ 475	\$ 490	\$ 502	\$ 514	\$ 527
GROUP INSURANCE	3	\$ 2,651	\$ 2,783	\$ 2,921	\$ 3,067	\$ 3,220
MEDICARE	3	\$ 565	\$ 425	\$ 435	\$ 446	\$ 457
INCOME PROTECTION INS	3	\$ 231	\$ 231	\$ 231	\$ 231	\$ 231
WORKERS COMP	3	\$ 1,665	\$ 869	\$ 891	\$ 913	\$ 936
BENEFITS	3	\$ 327	\$ 327	\$ 327	\$ 327	\$ 327
<b>SUPPLIES</b>						
TELEPHONE	2	\$ 127	\$ 131	\$ 135	\$ 139	\$ 143
CONTRACT SERVICES	2	\$ 15,071	\$ 7,523	\$ 7,749	\$ 7,981	\$ 8,221
POSTAGE & FREIGHT	2	\$ 10,424	\$ 737	\$ 759	\$ 782	\$ 805
PRINTING	2	\$ 21,273	\$ 1,911	\$ 1,969	\$ 2,028	\$ 2,088
AUTO MILEAGE	2	\$ 712	\$ 234	\$ 241	\$ 248	\$ 255
OTHER EXPENSE	2	\$ 82,436	\$ 44,909	\$ 46,256	\$ 47,644	\$ 49,073
TRAINING & EDUCATION	2	\$ 424	\$ 437	\$ 450	\$ 464	\$ 478
CONFERENCE & MEETINGS	2	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239
<b>INTERNAL SERVICES</b>						
GENERAL LIABILITY INSURANCE	2	\$ 420	\$ 462	\$ 508	\$ 559	\$ 615
GF ADMIN	2	\$ 5,154	\$ 5,335	\$ 5,522	\$ 5,715	\$ 5,915
<b>TRANSFERS</b>						
TRANSFER OUT - EMPLOYEE BENEFITS FUND	3	\$ 512	\$ 550	\$ 592	\$ 636	\$ 684
<b>TOTAL: WATER OPERATIONS FUND, Water Conservation</b>		<b>\$ 188,239</b>	<b>\$ 103,798</b>	<b>\$ 106,900</b>	<b>\$ 110,116</b>	<b>\$ 113,423</b>
<b>TOTAL: WATER OPERATIONS FUND (650) EXPENSES</b>		<b>\$ 8,919,055</b>	<b>\$ 9,045,787</b>	<b>\$ 9,703,869</b>	<b>\$10,028,137</b>	<b>\$10,333,246</b>

OPERATING EXPENSE FORECAST, continued <sup>1</sup> :

WATER IMPACT FUND	Basis	2016	2017	2018	2019	2020
<b>SUPPLIES</b>						
CONTRACT SERVICES	2	\$ 69	\$ 71	\$ 73	\$ 75	\$ 78
BANK CARD SERVICE FEES	2	\$ 2,627	\$ 2,706	\$ 2,787	\$ 2,871	\$ 2,957
<b>DEBT</b>						
SERVICE FEES	2	\$ 3,565	\$ 3,672	\$ 3,782	\$ 3,895	\$ 4,012
<b>INTERNAL SERVICES</b>						
GF ADMIN	2	\$ 3,585	\$ 3,711	\$ 3,841	\$ 3,975	\$ 4,114
<b>TRANSFERS</b>						
TRANSFER OUT-207 (GENL PLAN UPDATE)	2	\$ 4,221	\$ 4,221	\$ 4,221	\$ 4,221	\$ 4,221
<b>PROJECTS</b>						
REIMBURSEMENT AGREEMENT	2	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TOTAL: WATER IMPACT FUND (651) EXPENSES</b>		<b>\$ 14,067</b>	<b>\$ 14,380</b>	<b>\$ 14,704</b>	<b>\$ 15,037</b>	<b>\$ 15,382</b>

OPERATING EXPENSE FORECAST, continued <sup>1</sup> :

WATER RATE STABILIZATION FUND	Basis	2016	2017	2018	2019	2020
<b>SUPPLIES</b>						
CONTRACT SERVICES	2	\$ 53	\$ 55	\$ 56	\$ 58	\$ 60
<b>INTERNAL SERVICES</b>						
GF ADMIN	2	\$ 550	\$ 569	\$ 589	\$ 610	\$ 631
<b>TOTAL: WATER RATE STABILIZATION FUND (652) EXPENSES</b>		<b>\$ 603</b>	<b>\$ 624</b>	<b>\$ 645</b>	<b>\$ 668</b>	<b>\$ 691</b>

OPERATING EXPENSE FORECAST, continued <sup>1</sup> :

WATER SYSTEM REPLACEMENT FUND	Basis	2016	2017	2018	2019	2020
<b>SUPPLIES</b>						
CONTRACT SERVICES	2	\$ 849	\$ 874	\$ 900	\$ 927	\$ 955
<b>DEBT</b>						
SERVICE FEES	2	\$ 690	\$ 710	\$ 732	\$ 754	\$ 776
<b>INTERNAL SERVICES</b>						
GF ADMIN	2	\$ 3,455	\$ 3,576	\$ 3,701	\$ 3,830	\$ 3,964
<b>TRANSFERS</b>						
TRANSFER OUT-WATER CAP.EXPAN.	6	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TOTAL: WATER SYSTEM REPLACEMENT FUND (653) EXPENSES</b>		<b>\$ 4,993</b>	<b>\$ 5,160</b>	<b>\$ 5,333</b>	<b>\$ 5,511</b>	<b>\$ 5,696</b>

<b>Grand Total: Operating Expenses</b>		<b>\$ 8,938,718</b>	<b>\$ 9,065,952</b>	<b>\$ 9,724,551</b>	<b>\$10,049,353</b>	<b>\$10,355,014</b>
<b>Grand Total: Operating Expenses (Excluding Impact Fund Expenses)</b>		<b>\$ 8,924,651</b>	<b>\$ 9,051,571</b>	<b>\$ 9,709,848</b>	<b>\$10,034,316</b>	<b>\$10,339,632</b>

CITY OF MORGAN HILL  
WATER RATE STUDY  
Operating Revenue and Expenses  
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**EXHIBIT 1**

Excluded from Analysis <sup>6</sup> :						
Revenues:	Basis	2016	2017	2018	2019	2020
Water System Replacement Fund						
TRANSFER FROM-650 (WATER OPS)	6	\$ 1,114,706	\$ 1,121,838	\$ 1,120,919	\$ 1,119,213	\$ 1,120,219
<b>Total Revenue Excluded from Analysis:</b>		<b>\$ 1,114,706</b>	<b>\$ 1,121,838</b>	<b>\$ 1,120,919</b>	<b>\$ 1,119,213</b>	<b>\$ 1,120,219</b>
Expenses:	Basis	2016	2017	2018	2019	2020
Water Operations Fund						
Operations						
TRANSFERS						
TRANSFER OUT-653 (WATER REPLACE)	6	\$ 1,114,706	\$ 1,121,838	\$ 1,120,919	\$ 1,119,213	\$ 1,120,219
DEBT						
PRINCIPAL	6	\$ -	\$ -	\$ -	\$ -	\$ -
INTEREST	6	\$ -	\$ -	\$ -	\$ -	\$ -
LEASE PAYMENTS	6	\$ -	\$ -	\$ -	\$ -	\$ -
SERVICE FEES	6	\$ -	\$ -	\$ -	\$ -	\$ -
Utility Billing						
TRANSFERS						
TRANSFER OUT-BOND/DEBT	6	\$ 3,659	\$ 3,659	\$ 3,659	\$ 3,659	\$ 3,659
Water Impact Fund						
DEBT						
PRINCIPAL	6	\$ 238,500	\$ 250,500	\$ 259,500	\$ 268,500	\$ 279,000
INTEREST	6	\$ 239,231	\$ 230,288	\$ 220,894	\$ 211,163	\$ 201,094
ISSUANCE COST	6	\$ -	\$ -	\$ -	\$ -	\$ -
PROJECTS						
CONSTRUCTION <sup>5</sup>	2	\$ 3,834,000	\$ 1,050,000	\$ 1,140,000	\$ 600,000	\$ 200,000
Water Rate Stabilization Fund						
TRANSFERS						
TRANSFER OUT-650 (WATER OPS)	6	\$ -	\$ -	\$ -	\$ -	\$ -
Water System Replacement Fund						
DEBT						
PRINCIPAL	6	\$ 556,500	\$ 584,500	\$ 605,500	\$ 626,500	\$ 651,000
INTEREST	6	\$ 558,206	\$ 537,338	\$ 515,419	\$ 492,713	\$ 469,219
ISSUANCE COST	6	\$ -	\$ -	\$ -	\$ -	\$ -
TRANSFERS						
TRANSFER OUT-650 (WATER OPS)	6	\$ -	\$ -	\$ -	\$ -	\$ -
PROJECTS						
CONSTRUCTION <sup>5</sup>	6	\$ 5,148,000	\$ -	\$ -	\$ -	\$ -
<b>Total Expenses Excluded from Analysis:</b>		<b>\$11,692,803</b>	<b>\$ 3,778,122</b>	<b>\$ 3,865,891</b>	<b>\$ 3,321,747</b>	<b>\$ 2,924,191</b>

**CITY OF MORGAN HILL**  
**WATER RATE STUDY**  
**Operating Revenue and Expenses**  
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**EXHIBIT 1**

**FORECASTING ASSUMPTIONS:**

<b>INFLATION FACTORS</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
1 Customer Growth <sup>7</sup>	--	2.00%	16.41%	2.00%	2.00%
2 General Cost Inflation	--	3.00%	3.00%	3.00%	3.00%
3 Labor Cost Inflation <sup>8</sup>	--	5.00%	5.00%	5.00%	5.00%
4 Energy Cost Inflation	--	4.00%	4.00%	4.00%	4.00%
5 Other Cost Inflation	--	3.00%	3.00%	3.00%	3.00%
6 No Escalation	--	0.00%	0.00%	0.00%	0.00%

1. Data source for the FY 2015/16 adopted budget is from the following file: Operating Budget FY 2013-14 to FY 2015-16.xls.  
 Budget data for FY 2016/17 - FY 2019/20 is forecasted by the City. Inflationary factors are applied to project revenue and expenses in all future years.
2. Interest earnings beyond 2015/16 and internal transfers are calculated in the Financial Plan and Reserve Fund Summary of this model.
3. Per City staff, water sales includes the following conservation rate effective FY 2015/16 and beyond 30%, 30%, 20%, 20%, 20%, with 2% annual growth.  
 NBS is using a revised FY 2015/16 - 2019/20 rate revenue projection and inflating by customer growth rate in all future years.  
 File: Revenues Projection Without Rate Increases.xlsx, provided by City Staff 8/12/2015.
4. Initial Groundwater Production costs were provided by City Staff on 8/12/2015, file: Revenues Projection Without Rate Increase.xlsx.  
 Revised projection is inflated no expected change in consumption (assumes 30% conservation holds).
5. Construction expenses are excluded from this analysis and are handled in Exhibit 2 (CIP).
6. The following revenues and expenses have been excluded from this analysis since they do not represent actual cash expenses,  
 or are handled in the model elsewhere (i.e. Debt is in Exhibit 3)
7. Customer growth is calculated based on source: Projected Growth Rates.pdf. FY 2020/21 and beyond is set to 1.5% growth annually.
8. Labor cost inflation is set to 5%, per City Staff.

CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST		Budget	Projected			
Funding Sources:		FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
Grants		\$ -	\$ -	\$ -	\$ -	\$ -
Use of Impact Fee Reserves		-	1,086,960	1,221,669	665,616	229,682
Use of New SRF Loan Financing		-	-	-	-	-
Use of New Revenue Bond Proceeds		-	-	-	-	-
Use of 2014 Revenue Bond Proceeds <sup>1</sup>		8,982,000	-	652,000	-	-
Use of Capital Rehabilitation & Replacement Reserve		-	-	-	-	-
Rate Revenue		-	-	419,639	1,109,361	1,148,410
<b>Total Sources of Capital Funds</b>		<b>\$ 8,982,000</b>	<b>\$ 1,086,960</b>	<b>\$ 2,293,308</b>	<b>\$ 1,774,977</b>	<b>\$ 1,378,092</b>
<b>Uses of Capital Funds:</b>						
Total Project Costs		\$ 8,982,000	\$ 1,086,960	\$ 2,293,308	\$ 1,774,977	\$ 1,378,092
<b>Capital Funding Surplus (Deficiency)</b>		<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

CAPITAL IMPROVEMENT PROGRAM

Capital Improvement Program Costs (in Current-Year Dollars):

Capital Improvement Program Projects <sup>3</sup>	Fund	2016	2017	2018	2019	2020
601000 New Well / Property Construction	651	\$ 1,963,000	\$ -	\$ 1,140,000	\$ 400,000	\$ -
602000 New Water Reservoirs (new users)	651	\$ 986,000	\$ -	\$ -	\$ -	\$ -
602000 New Water Reservoirs (new users)	653	\$ 1,300,000	\$ -	\$ -	\$ -	\$ -
603000 New Water Mains	651	\$ 474,000	\$ 1,050,000	\$ -	\$ 200,000	\$ 200,000
603000 New Water Mains	653	\$ 949,000	\$ -	\$ -	\$ -	\$ -
607000 Booster Pump Rehabilitation	651	\$ 261,000	\$ -	\$ -	\$ -	\$ -
607000 Booster Pump Rehabilitation	653	\$ 1,133,000	\$ -	\$ -	\$ -	\$ -
608000 Rehabilitate Water Wells	653	\$ 213,000	\$ -	\$ -	\$ -	\$ -
610000 Water Main Replacement	653	\$ 472,000	\$ -	\$ -	\$ -	\$ -
610000 Water Main Replacement	651	\$ 108,000	\$ -	\$ -	\$ -	\$ -
620007 Re-coat Water Reservoir/Tanks	653	\$ 373,000	\$ -	\$ -	\$ -	\$ -
620007 Re-coat Water Reservoir/Tanks	651	\$ 42,000	\$ -	\$ -	\$ -	\$ -
512093 Underground Monterey Utilities	653	\$ 125,000	\$ -	\$ -	\$ -	\$ -
562012 DeWitt Avenue "S" Curve Realignment	653	\$ 483,000	\$ -	\$ -	\$ -	\$ -
623014 Recycled Water MP Supplemental Study	653	\$ 100,000	\$ -	\$ -	\$ -	\$ -
Estimated Future Projects <sup>4</sup>	653	\$ -	\$ -	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
<b>Total: Capital Improvement Program Costs (Current-Year Dollars)</b>		<b>\$ 8,982,000</b>	<b>\$ 1,050,000</b>	<b>\$ 2,140,000</b>	<b>\$ 1,600,000</b>	<b>\$ 1,200,000</b>
<b>Total: CIP Costs (Current Year) Paid with Impact Fee Fund</b>	651	<b>\$ 3,834,000</b>	<b>\$ 1,050,000</b>	<b>\$ 1,140,000</b>	<b>\$ 600,000</b>	<b>\$ 200,000</b>
<b>Total: CIP Costs (Current Year) Paid with Replacement Fund</b>	653	<b>\$ 5,148,000</b>	<b>\$ -</b>	<b>\$ 1,000,000</b>	<b>\$ 1,000,000</b>	<b>\$ 1,000,000</b>

**CITY OF MORGAN HILL**  
**WATER RATE STUDY**  
**Capital Improvement Plan Expenditures**  
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**EXHIBIT 2**

**Capital Improvement Program Costs (in Future-Year Dollars) <sup>5</sup>:**

<b>Capital Improvement Program Projects <sup>3</sup></b>		<b>Fund</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
601000	New Well / Property Construction	651	\$ 1,963,000	\$ -	\$ 1,221,669	\$ 443,744	\$ -
602000	New Water Reservoirs (new users)	651	\$ 986,000	\$ -	\$ -	\$ -	\$ -
602000	New Water Reservoirs (new users)	653	\$ 1,300,000	\$ -	\$ -	\$ -	\$ -
603000	New Water Mains	651	\$ 474,000	\$ 1,086,960	\$ -	\$ 221,872	\$ 229,682
603000	New Water Mains	653	\$ 949,000	\$ -	\$ -	\$ -	\$ -
607000	Booster Pump Rehabilitation	651	\$ 261,000	\$ -	\$ -	\$ -	\$ -
607000	Booster Pump Rehabilitation	653	\$ 1,133,000	\$ -	\$ -	\$ -	\$ -
608000	Rehabilitate Water Wells	653	\$ 213,000	\$ -	\$ -	\$ -	\$ -
610000	Water Main Replacement	653	\$ 472,000	\$ -	\$ -	\$ -	\$ -
610000	Water Main Replacement	651	\$ 108,000	\$ -	\$ -	\$ -	\$ -
620007	Re-coat Water Reservoir/Tanks	653	\$ 373,000	\$ -	\$ -	\$ -	\$ -
620007	Re-coat Water Reservoir/Tanks	651	\$ 42,000	\$ -	\$ -	\$ -	\$ -
512093	Underground Monterey Utilities	653	\$ 125,000	\$ -	\$ -	\$ -	\$ -
562012	DeWitt Avenue "S" Curve Realignment	653	\$ 483,000	\$ -	\$ -	\$ -	\$ -
623014	Recycled Water MP Supplemental Study	653	\$ 100,000	\$ -	\$ -	\$ -	\$ -
--	Estimated Future Projects <sup>4</sup>	653	\$ -	\$ -	\$ 1,071,639	\$ 1,109,361	\$ 1,148,410
<b>Total: Capital Improvement Program Costs (Future-Year Dollars)</b>			<b>\$ 8,982,000</b>	<b>\$ 1,086,960</b>	<b>\$ 2,293,308</b>	<b>\$ 1,774,977</b>	<b>\$ 1,378,092</b>

<b>Total: CIP Costs (Current Year) Paid with Impact Fee Fund 651</b>	651	<b>\$ 3,834,000</b>	<b>\$ 1,086,960</b>	<b>\$ 1,221,669</b>	<b>\$ 665,616</b>	<b>\$ 229,682</b>
<b>Total: CIP Costs (Current Year) Paid with Replacement Fund 653</b>	653	<b>\$ 5,148,000</b>	<b>\$ -</b>	<b>\$ 1,071,639</b>	<b>\$ 1,109,361</b>	<b>\$ 1,148,410</b>

**FORECASTING ASSUMPTIONS:**

<b>Economic Variables</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Annual Construction Cost Inflation, Per Engineering News Record <sup>6</sup>	0.00%	3.52%	3.52%	3.52%	3.52%
Cumulative Construction Cost Multiplier from 2016	1.00	1.04	1.07	1.11	1.15

1. Use of 2014 Revenue Bond Proceeds is identified by project in the CIP budget provided by City staff; file: CIP 10-Year Water and Sewer.xlsx.  
It is assumed those proceeds not spent in 2015/16 are available in 2017/18 for capital projects.
2. The City has Bond funding that will be used for projects listed in FY 2015/16; therefore this years expenditures are not reduced by the listed percentage.
3. Capital Improvement Program projects were provided by City staff via email on 10/12/2015.
4. Estimated future expenditures is \$1 mil./year in 2017/18 - 2019/20, per email from City Staff 10/12/2015. In 2025/26 and beyond, this is the average annual expenditure of all replacement (or rate) funded capital projects for FY 2015/16 through 2024/25.
5. Project costs are inflated by 3.62% per year, Engineering News Record estimates of construction cost inflation.
6. For reference purposes, the annual Construction Cost Inflation percentage is the 10 year average change in the Construction Cost Index for January 2005 to January 2015. Source: Engineering News Record website (<http://enr.construction.com>).



**CITY OF MORGAN HILL**  
**WATER RATE STUDY**  
**Debt Service**  
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EXISTING DEBT OBLIGATIONS	Budget	Projected			
Annual Repayment Schedules:	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>2014 Water Refunding &amp; CIP Revenue Bonds, \$21,975,000</b> <sup>1,2</sup>					
Principal Payment	\$ 795,000	\$ 835,000	\$ 865,000	\$ 895,000	\$ 930,000
Interest Payment	797,438	767,625	736,313	703,875	670,313
<b>Subtotal: Annual Debt Service</b>	<b>\$ 1,592,438</b>	<b>\$ 1,602,625</b>	<b>\$ 1,601,313</b>	<b>\$ 1,598,875</b>	<b>\$ 1,600,313</b>
Coverage Requirement(% above annual payment) <sup>2</sup>	120%	120%	120%	120%	120%
Reserve Requirement <sup>3</sup>	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Grand Total: Existing Annual Debt Service</b>	<b>\$ 1,592,438</b>	<b>\$ 1,602,625</b>	<b>\$ 1,601,313</b>	<b>\$ 1,598,875</b>	<b>\$ 1,600,313</b>
<b>Grand Total: Existing Debt Reserve Target</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Allocation of Debt Service Payments to Funding Sources<sup>4</sup></b>					
<b>Fund 651 - Impact Fund (41%)</b>	<b>\$ 652,899</b>	<b>\$ 657,076</b>	<b>\$ 656,538</b>	<b>\$ 655,539</b>	<b>\$ 656,128</b>
<b>Fund 653 - Water System Replacement Fund (59%)</b>	<b>\$ 939,538</b>	<b>\$ 945,549</b>	<b>\$ 944,774</b>	<b>\$ 943,336</b>	<b>\$ 944,184</b>

1. The 2014 Water Revenue Bonds were issued to finance 2014 Projects, refinance 1999 Projects and refund the Series 1999 COPs, refinance 2004 Projects and refund the Series 2004 Bonds, & to pay certain costs of issuance (Bond Purchase Agreement, pg. 2).
2. Per the Installment Sales Agreement for the 2014 Revenue Bonds, the City is required to maintain a debt coverage ratio of 1.20 of the maximum annual debt service for these bond issues and all other parity debt. See page 14 of the Installment Sales Agreement (page 74 of the file: 6a. Bond Document - Morgan Hill Water Series 2014.pdf).
3. There is no reserve requirement for this bond issue.
4. Per Staff's direction in an email on 10/7/2015, the debt service payment on the 2014 Water Revenue Bonds is split as follows:  
41% to the Water Impact Fund (651) and 59% to the Water System Replacement Fund (653).

CITY OF MORGAN HILL  
WATER RATE STUDY  
Cost of Service Analysis  
Draft Copy - Subject to Revision

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2015/16	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
<b>OPERATING EXPENSES</b>											
<b>WATER OPERATIONS FUND, Operations</b>											
<b>SALARIES</b>											
SALARIES - GENERAL	\$ 1,558,185	\$ 467,456	\$ 749,049	\$ 77,909	\$ 28,182	\$ 235,589	30%	48%	5%	2%	15%
SALARIES - PART-TIME TEMP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	30%	48%	5%	2%	15%
EARNED LEAVE LIABILITY	\$ 20,512	\$ 6,154	\$ 9,861	\$ 1,026	\$ 371	\$ 3,101	30%	48%	5%	2%	15%
OVERTIME - GENERAL	\$ 74,263	\$ 22,279	\$ 35,700	\$ 3,713	\$ 1,343	\$ 11,228	30%	48%	5%	2%	15%
UNEMPLOYMENT INSURANCE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	30%	48%	5%	2%	15%
RETIREMENT - GENERAL	\$ 278,043	\$ 83,413	\$ 133,661	\$ 13,902	\$ 5,029	\$ 42,039	30%	48%	5%	2%	15%
DEFERRED COMPENSATION	\$ 31,164	\$ 9,349	\$ 14,981	\$ 1,558	\$ 564	\$ 4,712	30%	48%	5%	2%	15%
GROUP INSURANCE	\$ 275,455	\$ 82,637	\$ 132,416	\$ 13,773	\$ 4,982	\$ 41,647	30%	48%	5%	2%	15%
MEDICARE	\$ 23,718	\$ 7,115	\$ 11,402	\$ 1,186	\$ 429	\$ 3,586	30%	48%	5%	2%	15%
INCOME PROTECTION INS	\$ 14,763	\$ 4,429	\$ 7,097	\$ 738	\$ 267	\$ 2,232	30%	48%	5%	2%	15%
WORKERS COMP	\$ 79,751	\$ 23,925	\$ 38,338	\$ 3,988	\$ 1,442	\$ 12,058	30%	48%	5%	2%	15%
BENEFITS	\$ 3,296	\$ 989	\$ 1,584	\$ 165	\$ 60	\$ 498	30%	48%	5%	2%	15%
UNIFORM	\$ 9,548	\$ 2,864	\$ 4,590	\$ 477	\$ 173	\$ 1,444	30%	48%	5%	2%	15%
<b>SUPPLIES</b>											
TAXES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%
ELECTRIC	\$ 760,000	\$ 532,000	\$ 0	\$ -	\$ -	\$ 228,000	70%	0%	0%	0%	30%
GROUNDWATER PRODUCTION4	\$ 2,227,267	\$ 556,817	\$ 1,670,450	\$ -	\$ -	\$ -	25%	75%	0%	0%	0%
WATER/SEWER	\$ 2,758	\$ 828	\$ 1,743	\$ 138	\$ 50	\$ -	30%	63%	5%	2%	0%
TELEPHONE	\$ 21,218	\$ 6,365	\$ 13,408	\$ 1,061	\$ 384	\$ -	30%	63%	5%	2%	0%
GASOLINE & OIL	\$ 50,923	\$ 15,277	\$ 24,480	\$ 2,546	\$ 921	\$ 7,699	30%	48%	5%	2%	15%
CONTRACT SERVICES	\$ 369,563	\$ 110,869	\$ 177,656	\$ 18,478	\$ 6,684	\$ 55,876	30%	48%	5%	2%	15%
BANK CARD SERVICE FEES	\$ 438	\$ -	\$ -	\$ 438	\$ -	\$ -	0%	0%	100%	0%	0%
RENTALS - OUTSIDE	\$ 2,652	\$ 796	\$ 1,275	\$ 133	\$ 48	\$ 401	30%	48%	5%	2%	15%
STATIONERY & OFFICE SUPPLIES	\$ 9,548	\$ 2,864	\$ 6,034	\$ 477	\$ 173	\$ -	30%	63%	5%	2%	0%
COMPUTER HARDWARE-NON CAPITAL	\$ 4,774	\$ 1,432	\$ 3,017	\$ 239	\$ 86	\$ -	30%	63%	5%	2%	0%
COMPUTER SOFTWARE-NON CAPITAL	\$ 13,261	\$ 3,978	\$ 8,380	\$ 663	\$ 240	\$ -	30%	63%	5%	2%	0%
OTHER SUPPLIES	\$ 213,200	\$ 63,960	\$ 102,489	\$ 10,660	\$ 3,856	\$ 32,235	30%	48%	5%	2%	15%
ADVERTISING	\$ 1,061	\$ 318	\$ 670	\$ 53	\$ 19	\$ -	30%	63%	5%	2%	0%
PHOTOCOPYING	\$ 106	\$ 32	\$ 67	\$ 5	\$ 2	\$ -	30%	63%	5%	2%	0%
POSTAGE & FREIGHT	\$ 6,545	\$ -	\$ -	\$ 6,427	\$ 118	\$ -	0%	0%	98%	2%	0%
PRINTING	\$ 2,122	\$ -	\$ -	\$ 2,083	\$ 38	\$ -	0%	0%	98%	2%	0%
AUTO MILEAGE	\$ 265	\$ 80	\$ 127	\$ 13	\$ 5	\$ 40	30%	48%	5%	2%	15%
WATER/SEWER MAINTENANCE SVS	\$ 43,045	\$ 12,914	\$ 20,693	\$ 2,152	\$ 779	\$ 6,508	30%	48%	5%	2%	15%
SMALL TOOLS	\$ 10,609	\$ 3,183	\$ 5,100	\$ 530	\$ 192	\$ 1,604	30%	48%	5%	2%	15%
OTHER EXPENSE	\$ 38,000	\$ 11,400	\$ 18,267	\$ 1,900	\$ 687	\$ 5,745	30%	48%	5%	2%	15%
TRAINING & EDUCATION	\$ 19,096	\$ 5,729	\$ 9,180	\$ 955	\$ 345	\$ 2,887	30%	48%	5%	2%	15%
CONFERENCE & MEETINGS	\$ 3,183	\$ 955	\$ 2,011	\$ 159	\$ 58	\$ -	30%	63%	5%	2%	0%
MEMBERSHIP & DUES	\$ 15,914	\$ 4,774	\$ 7,650	\$ 796	\$ 288	\$ 2,406	30%	48%	5%	2%	15%
SUBSCRIPTION & PUBLICATIONS	\$ 212	\$ 64	\$ 102	\$ 11	\$ 4	\$ 32	30%	48%	5%	2%	15%
MAINT - BLDGS/IMPROVEMENTS	\$ 15,914	\$ 4,774	\$ 7,650	\$ 796	\$ 288	\$ 2,406	30%	48%	5%	2%	15%
MAINT - MACHINE/EQUIPMENT	\$ 10,609	\$ 3,183	\$ 5,100	\$ 530	\$ 192	\$ 1,604	30%	48%	5%	2%	15%
MAINT - AUTO/TRUCKS	\$ 26,523	\$ 7,957	\$ 12,750	\$ 1,326	\$ 480	\$ 4,010	30%	48%	5%	2%	15%
<b>SUB-TOTAL: WATER OPERATIONS FUND, Operations</b>	<b>\$ 6,237,504</b>	<b>\$ 2,061,156</b>	<b>\$ 3,236,978</b>	<b>\$ 171,004</b>	<b>\$ 58,777</b>	<b>\$ 709,588</b>	<b>33%</b>	<b>52%</b>	<b>3%</b>	<b>1%</b>	<b>11%</b>

CITY OF MORGAN HILL  
WATER RATE STUDY  
Cost of Service Analysis  
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Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2015/16	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
<b>OPERATING EXPENSES</b>											
<b>WATER OPERATIONS FUND, Operations, continued</b>											
<b>CAPITAL</b>											
MACHINERY/EQUIPMENT	\$ 86,700	\$ -	\$ 86,700	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%
COMPUTER EQUIPMENT	\$ 5,253	\$ -	\$ 5,253	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%
COMPUTER SOFTWARE	\$ 13,658	\$ -	\$ 13,658	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%
METERS	\$ 550,000	\$ 165,000	\$ 291,839	\$ 82,500	\$ 10,661	\$ -	30%	53%	15%	2%	0%
<b>INTERNALSERVICES</b>											
GENERAL LIABILITY INSURANCE	\$ 75,750	\$ 22,725	\$ 46,497	\$ 3,788	\$ 1,370	\$ 1,370	30%	61%	5%	2%	2%
BUILDING MAINT - CURRENT SERVICES	\$ 54,220	\$ 16,266	\$ 33,281	\$ 2,711	\$ 981	\$ 981	30%	61%	5%	2%	2%
BUILDING MAINT - FUTURE REPLACEMENT	\$ 2,670	\$ 801	\$ 1,639	\$ 133	\$ 48	\$ 48	30%	61%	5%	2%	2%
FLEET REPLACEMENT	\$ 233,540	\$ 70,062	\$ 143,353	\$ 11,677	\$ 4,224	\$ 4,224	30%	61%	5%	2%	2%
INFO SYSTEM SERVICES	\$ 116,855	\$ -	\$ 89,257	\$ 23,371	\$ 2,113	\$ 2,113	0%	76%	20%	2%	2%
GF ADMIN	\$ 205,534	\$ 61,660	\$ 126,162	\$ 10,277	\$ 3,717	\$ 3,717	30%	61%	5%	2%	2%
<b>TRANSFERS</b>											
TRANSFER OUT-010 (GENERAL FUND)	\$ 436,623	\$ -	\$ 420,830	\$ -	\$ 7,897	\$ 7,897	0%	96%	0%	2%	2%
TRANSFER OUT-232 (ENVIRONMENTAL PROGRAMS)	\$ 56,931	\$ -	\$ 54,872	\$ -	\$ 1,030	\$ 1,030	0%	96%	0%	2%	2%
TRANSFER OUT-207 (GENL PLAN UPDATE)	\$ 10,300	\$ -	\$ 9,927	\$ -	\$ 186	\$ 186	0%	96%	0%	2%	2%
TRANSFER OUT - EMPLOYEE BENEFITS FUND	\$ 45,385	\$ -	\$ 43,743	\$ -	\$ 821	\$ 821	0%	96%	0%	2%	2%
<b>SUB-TOTAL: WATER OPERATIONS FUND, Operations</b>	<b>\$ 1,893,418</b>	<b>\$ 336,514</b>	<b>\$ 1,367,012</b>	<b>\$ 134,457</b>	<b>\$ 33,049</b>	<b>\$ 22,387</b>	<b>18%</b>	<b>72%</b>	<b>7%</b>	<b>2%</b>	<b>1%</b>

CITY OF MORGAN HILL  
WATER RATE STUDY  
Cost of Service Analysis  
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Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2015/16	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
<b>OPERATING EXPENSES, continued</b>											
<b>WATER OPERATIONS FUND, Utility Billing</b>											
<b>SALARIES</b>											
SALARIES - GENERAL	\$ 217,289	\$ -	\$ -	\$ 217,289	\$ -	\$ -	0%	0%	100%	0%	0%
SALARIES - PART-TIME TEMP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
EARNED LEAVE LIABILITY	\$ 4,385	\$ -	\$ -	\$ 4,385	\$ -	\$ -	0%	0%	100%	0%	0%
OVERTIME - GENERAL	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
UNEMPLOYMENT INSURANCE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
RETIREMENT - GENERAL	\$ 42,198	\$ -	\$ -	\$ 42,198	\$ -	\$ -	0%	0%	100%	0%	0%
DEFERRED COMPENSATION	\$ 3,212	\$ -	\$ -	\$ 3,212	\$ -	\$ -	0%	0%	100%	0%	0%
GROUP INSURANCE	\$ 51,825	\$ -	\$ -	\$ 51,825	\$ -	\$ -	0%	0%	100%	0%	0%
MEDICARE	\$ 3,170	\$ -	\$ -	\$ 3,170	\$ -	\$ -	0%	0%	100%	0%	0%
INCOME PROTECTION INS	\$ 2,345	\$ -	\$ -	\$ 2,345	\$ -	\$ -	0%	0%	100%	0%	0%
WORKERS COMP	\$ 10,864	\$ -	\$ -	\$ 10,864	\$ -	\$ -	0%	0%	100%	0%	0%
BENEFITS	\$ 1,302	\$ -	\$ -	\$ 1,302	\$ -	\$ -	0%	0%	100%	0%	0%
CONTRACT LABOR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
<b>SUPPLIES</b>											
TELEPHONE	\$ 5,305	\$ -	\$ -	\$ 5,305	\$ -	\$ -	0%	0%	100%	0%	0%
CONTRACT SERVICES	\$ 50,071	\$ -	\$ -	\$ 50,071	\$ -	\$ -	0%	0%	100%	0%	0%
BANK CARD SERVICE FEES	\$ 59,489	\$ -	\$ -	\$ 59,489	\$ -	\$ -	0%	0%	100%	0%	0%
STATIONERY & OFFICE SUPPLIES	\$ 1,273	\$ -	\$ -	\$ 1,273	\$ -	\$ -	0%	0%	100%	0%	0%
COMPUTER HARDWARE-NON CAPITAL	\$ 1,000	\$ -	\$ -	\$ 1,000	\$ -	\$ -	0%	0%	100%	0%	0%
OTHER SUPPLIES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
ADVERTISING	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
PHOTOCOPYING	\$ 115	\$ -	\$ -	\$ 115	\$ -	\$ -	0%	0%	100%	0%	0%
POSTAGE & FREIGHT	\$ 53,045	\$ -	\$ -	\$ 53,045	\$ -	\$ -	0%	0%	100%	0%	0%
PRINTING	\$ 849	\$ -	\$ -	\$ 849	\$ -	\$ -	0%	0%	100%	0%	0%
AUTO MILEAGE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
TRAINING & EDUCATION	\$ 743	\$ -	\$ -	\$ 743	\$ -	\$ -	0%	0%	100%	0%	0%
SUBSCRIPTION & PUBLICATIONS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
<b>INTERNAL SERVICES</b>											
GENERAL LIABILITY INSURANCE	\$ 5,769	\$ -	\$ -	\$ 5,769	\$ -	\$ -	0%	0%	100%	0%	0%
BUILDING MAINT - CURRENT SERVICES	\$ 6,608	\$ -	\$ -	\$ 6,608	\$ -	\$ -	0%	0%	100%	0%	0%
BUILDING MAINT - FUTURE REPLACEMENT	\$ 1,096	\$ -	\$ -	\$ 1,096	\$ -	\$ -	0%	0%	100%	0%	0%
INFO SYSTEM SERVICES	\$ 25,230	\$ -	\$ -	\$ 25,230	\$ -	\$ -	0%	0%	100%	0%	0%
GF ADMIN	\$ 45,673	\$ -	\$ -	\$ 45,673	\$ -	\$ -	0%	0%	100%	0%	0%
<b>TRANSFERS</b>											
TRANSFER OUT - EMPLOYEE BENEFITS FUND	\$ 7,039	\$ -	\$ -	\$ 7,039	\$ -	\$ -	0%	0%	100%	0%	0%
<b>TOTAL: WATER OPERATIONS FUND, Utility Billing</b>	<b>\$ 599,894</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 599,894</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>	<b>0%</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>

CITY OF MORGAN HILL  
WATER RATE STUDY  
Cost of Service Analysis  
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Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2015/16	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
<b>OPERATING EXPENSES, continued</b>											
<b>WATER OPERATIONS FUND, Water Conservation</b>											
<b>SALARIES</b>											
SALARIES - GENERAL	\$ 28,017	\$ 28,017	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
SALARIES - PART-TIME TEMP	\$ 10,640	\$ 10,640	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
EARNED LEAVE LIABILITY	\$ 1,902	\$ 1,902	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
UNEMPLOYMENT INSURANCE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
RETIREMENT - GENERAL	\$ 4,999	\$ 4,999	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
DEFERRED COMPENSATION	\$ 475	\$ 475	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
GROUP INSURANCE	\$ 2,651	\$ 2,651	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
MEDICARE	\$ 565	\$ 565	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
INCOME PROTECTION INS	\$ 231	\$ 231	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
WORKERS COMP	\$ 1,665	\$ 1,665	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
BENEFITS	\$ 327	\$ 327	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
SUPPLIES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
TELEPHONE	\$ 127	\$ 127	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
CONTRACT SERVICES	\$ 15,071	\$ 15,071	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
POSTAGE & FREIGHT	\$ 10,424	\$ 10,424	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
PRINTING	\$ 21,273	\$ 21,273	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
AUTO MILEAGE	\$ 712	\$ 712	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
OTHER EXPENSE	\$ 82,436	\$ 82,436	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
TRAINING & EDUCATION	\$ 424	\$ 424	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
CONFERENCE & MEETINGS	\$ 212	\$ 212	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
INTERNAL SERVICES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
GENERAL LIABILITY INSURANCE	\$ 420	\$ 420	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
GF ADMIN	\$ 5,154	\$ 5,154	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
TRANSFERS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
TRANSFER OUT - EMPLOYEE BENEFITS FUND	\$ 512	\$ 512	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
<b>TOTAL: WATER OPERATIONS FUND, Water Conservation</b>	<b>\$ 188,239</b>	<b>\$ 188,239</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

CITY OF MORGAN HILL  
WATER RATE STUDY  
Cost of Service Analysis  
Draft Copy - Subject to Revision

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2015/16	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
<b>OPERATING EXPENSES, continued</b>											
<b>WATER RATE STABILIZATION FUND</b>											
<b>SUPPLIES</b>											
CONTRACT SERVICES	\$ 53	\$ 16	\$ 32	\$ 3	\$ 1	\$ 1	30%	61%	5%	2%	2%
<b>INTERNAL SERVICES</b>											
GF ADMIN	\$ 550	\$ 165	\$ 335	\$ 27	\$ 11	\$ 11	30%	61%	5%	2%	2%
<b>TOTAL: WATER RATE STABILIZATION FUND (652) EXPENSES</b>	<b>\$ 603</b>	<b>\$ 181</b>	<b>\$ 368</b>	<b>\$ 30</b>	<b>\$ 12</b>	<b>\$ 12</b>	<b>30%</b>	<b>61%</b>	<b>5%</b>	<b>2%</b>	<b>2%</b>

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2015/16	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
<b>OPERATING EXPENSES, continued</b>											
<b>WATER SYSTEM REPLACEMENT FUND</b>											
<b>SUPPLIES</b>											
CONTRACT SERVICES	\$ 849	\$ 255	\$ 535	\$ 42	\$ 17	\$ -	30%	63%	5%	2%	0%
<b>DEBT</b>											
SERVICE FEES	\$ 690	\$ 207	\$ 434	\$ 34	\$ 14	\$ -	30%	63%	5%	2%	0%
<b>INTERNAL SERVICES</b>											
GF ADMIN	\$ 3,455	\$ 1,036	\$ 2,177	\$ 173	\$ 69	\$ -	30%	63%	5%	2%	0%
<b>TRANSFERS</b>											
TRANSFER OUT-WATER CAP.EXPAN.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	30%	63%	5%	2%	0%
<b>TOTAL: WATER SYSTEM REPLACEMENT FUND (653) EXPENSES</b>	<b>\$ 4,993</b>	<b>\$ 1,498</b>	<b>\$ 3,146</b>	<b>\$ 250</b>	<b>\$ 100</b>	<b>\$ -</b>	<b>30%</b>	<b>63%</b>	<b>5%</b>	<b>2%</b>	<b>0%</b>

<b>Grand Total: Operating Expenses</b>	<b>\$ 8,924,651</b>	<b>\$ 2,587,588</b>	<b>\$ 4,607,503</b>	<b>\$ 905,635</b>	<b>\$ 91,937</b>	<b>\$ 731,988</b>	<b>29%</b>	<b>52%</b>	<b>10%</b>	<b>1%</b>	<b>8%</b>
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CITY OF MORGAN HILL  
WATER RATE STUDY  
Cost of Service Analysis  
Draft Copy - Subject to Revision

Classification of Expenses, continued											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2015/16	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
<b>DEBT SERVICE PAYMENTS</b>											
2014 Water Refunding & CIP Revenue Bonds, \$21,975,000	\$ 939,538	\$ -	\$ 939,538	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%
New Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%
<b>TOTAL: DEBT SERVICE PAYMENTS</b>	<b>\$ 939,538</b>	<b>\$ -</b>	<b>\$ 939,538</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
<b>Capital Expenditures</b>											
Rate Funded Capital Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%
<b>TOTAL REVENUE REQUIREMENTS</b>	<b>\$ 9,864,189</b>	<b>\$ 2,587,588</b>	<b>\$ 5,547,041</b>	<b>\$ 905,635</b>	<b>\$ 91,937</b>	<b>\$ 731,988</b>	<b>26%</b>	<b>56%</b>	<b>9%</b>	<b>1%</b>	<b>7%</b>
<b>Less: Non-Rate Revenues</b>											
RENT & CONCESSIONS	\$ (70,147)	\$ (18,401)	\$ (39,447)	\$ (6,440)	\$ (654)	\$ (5,205)	26%	56%	9%	1%	7%
FRONT FOOTAGE/OFFSITE	\$ (52,500)	\$ (13,772)	\$ (29,523)	\$ (4,820)	\$ (489)	\$ (3,896)	26%	56%	9%	1%	7%
PERCHLORATE SURCHARGE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
UB COLLECTIONS	\$ (2,060)	\$ -	\$ -	\$ (2,060)	\$ -	\$ -	0%	0%	100%	0%	0%
METER INSTALL & SERVICE	\$ (215,325)	\$ (64,598)	\$ (118,429)	\$ (32,299)	\$ -	\$ -	30%	55%	15%	0%	0%
FIRE HYDRANT CHARGE	\$ (50,000)	\$ (13,116)	\$ (28,117)	\$ (4,591)	\$ (466)	\$ (3,710)	26%	56%	9%	1%	7%
OTHER REVENUE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
REIMBURSEMENT OF EXPENSES	\$ (20,600)	\$ (5,404)	\$ (11,584)	\$ (1,891)	\$ (192)	\$ (1,529)	26%	56%	9%	1%	7%
MISC. SALES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
SURPLUS SALES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
MISC. REVENUE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
ANNUAL BACKFLOW INSPECTION	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
UTILITY ACCOUNT SET-UP	\$ (56,650)	\$ -	\$ -	\$ (56,650)	\$ -	\$ -	0%	0%	100%	0%	0%
CONSTRUCTION BACKFLOW INSPECTION	\$ (412)	\$ (108)	\$ (232)	\$ (38)	\$ (4)	\$ (31)	26%	56%	9%	1%	7%
CONST.INSPECT.-BACKFLOW	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
UTILITY BILL DELINQ CHR	\$ (20,600)	\$ -	\$ -	\$ (20,600)	\$ -	\$ -	0%	0%	100%	0%	0%
DELINQUENT BILL CHARGE	\$ (114,493)	\$ -	\$ -	\$ (114,493)	\$ -	\$ -	0%	0%	100%	0%	0%
UTILITY SERVICE CALL	\$ (59,508)	\$ -	\$ -	\$ (59,508)	\$ -	\$ -	0%	0%	100%	0%	0%
CHGS-CURR/PLANS & SPECS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
TRANSFER FROM-640 (SEWER OPS)	\$ (316,409)	\$ (83,001)	\$ (177,930)	\$ (29,050)	\$ (2,949)	\$ (23,480)	26%	56%	9%	1%	7%
TRANSFER FROM-653 (WATER CIP) 2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
TRANSFER FROM-652 (WATER STABL) 2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
<b>Water System Replacement Fund (653)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>26%</b>	<b>56%</b>	<b>9%</b>	<b>1%</b>	<b>7%</b>
OTHER REVENUE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
BOND PROCEEDS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
CAPITAL CONTRIBUTIONS	\$ (133,000)	\$ (34,889)	\$ (74,791)	\$ (12,211)	\$ (1,240)	\$ (9,869)	26%	56%	9%	1%	7%
CHGS-CURR/PLANS & SPECS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
TRANSFER FROM-650 (WATER OPS) 2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
SPECIAL DEPOSITS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
Interest Income	\$ (47,138)	\$ (12,365)	\$ (26,507)	\$ (4,328)	\$ (439)	\$ (3,498)	26%	56%	9%	1%	7%
<b>NET REVENUE REQUIREMENTS</b>	<b>\$ 8,705,347</b>	<b>\$ 2,341,935</b>	<b>\$ 5,040,481</b>	<b>\$ 556,657</b>	<b>\$ 85,504</b>	<b>\$ 680,770</b>					
<b>Allocation of Revenue Requirements</b>	<b>100.0%</b>	<b>26.9%</b>	<b>57.9%</b>	<b>6.4%</b>	<b>1.0%</b>	<b>7.8%</b>					

CITY OF MORGAN HILL  
WATER RATE STUDY  
Cost of Service Analysis  
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Classification of Expenses, continued						
Adjustments to Classification of Expenses						
Adjustment for Current Rate Level:	Total	(COM)	(CAP)	(CA)	(FP)	(ZON)
Test Year (FY 2015/16) Target Rate Rev. After Rate Increases	\$8,488,540					
Projected Rate Revenue at Current Rates	\$7,329,555					
Test Year (FY 2015/16) Projected Rate Adjustment	9%					
<b>Net Revenue Requirements</b>	<b>\$ 8,488,540</b>	<b>\$ 2,283,609</b>	<b>\$ 4,899,679</b>	<b>\$ 541,107</b>	<b>\$ 83,375</b>	<b>\$ 680,770</b>
<i>Percent of Revenue</i>	<i>100.0%</i>	<i>26.9%</i>	<i>57.7%</i>	<i>6.4%</i>	<i>1.0%</i>	<i>8.0%</i>

Cost-of-Service Allocation to Fixed vs. Variable Charges	
Fixed Charges	73%
Variable Charges	27%

<b>Rate Alternative #1 Net Revenue Requirements of 50% Fixed / 50% Variable</b>	<b>Total Rate Revenue Requirement s FY 2015/16</b>	<b>Commodity Related Costs</b>	<b>Capacity Related Costs</b>	<b>Customer Related Costs</b>	<b>Fire Protection Related Costs</b>	<b>Zonal Related Costs</b>
Rate-Design Adjustments to Fixed/Variable %	100.0%	42%	44%	5%	1%	8%
Rate-Design Adjustments to Fixed/Variable (\$)	\$8,488,540	\$3,563,500	\$3,747,078	\$413,817	\$83,375	\$680,770

Variable (Volumetric Rates)	50.0%
Fixed Charges	50.0%



**CITY OF MORGAN HILL**  
**WATER RATE STUDY**  
**Water Cost of Service Analysis**  
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**Development of the BASE CAPACITY Allocation Factor**

Customer Class	FY 2014/15 Volume (hcf) <sup>1</sup>	Percent of Total Volume	% Adjustment for Conservation <sup>2</sup>	Estimated Volume Adjusted for	Percent of Total Volume
Residential SF- Inside	1,551,464	57.2%	20%	1,241,172	57.2%
Residential SF- Outside	49,920	1.8%	20%	39,936	1.8%
Residential - Multi-Family - Inside	308,735	11.4%	20%	246,988	11.4%
Commercial - Inside	801,354	29.6%	20%	641,084	29.6%
Commercial - Outside	68	0.0%	20%	54	0.0%
<b>Subtotal</b>	<b>2,711,541</b>	<b>100.0%</b>	<b>--</b>	<b>2,169,235</b>	<b>100.0%</b>
Fire	45	0.0%	0%	-	0.0%
<b>Grand Total</b>	<b>2,711,586</b>	<b>100.0%</b>	<b>20%</b>	<b>2,169,235</b>	<b>100.0%</b>

1. Consumption data source: Billed Consumption Report by Month spreadsheets.

2. Additional conservation expected from FY 2014/15. Based on a 38% conservation of CY 2013 consumption (3.5 mil hcf), per the State's August 27, 2015 water supplier report source of 2013 consumption: Item10\_Monthly Sales By Class 2013\_2014\_2015.xlsx

**Commodity Related Costs:** These costs are associated with the total consumption (flow) of water over a specified period of time (e.g. annual).

**Development of the CAPACITY (MAX MONTH) Allocation Factors**

Customer Class	Average Monthly Use (hcf)	Peak Monthly Use (hcf) <sup>1</sup>	Peak Month Factor	Max Month Capacity Factor
Residential SF- Inside	129,289	234,405	1.81	58.0%
Residential SF- Outside	4,160	6,690	1.61	1.7%
Residential - Multi-Family - Inside	25,728	41,773	1.62	10.3%
Commercial - Inside	66,780	121,307	1.82	30.0%
Commercial - Outside	6	16	2.82	0.0%
<b>Subtotal</b>	<b>225,962</b>	<b>404,191</b>	<b>1.79</b>	<b>100.0%</b>
Fire	4	21	5.60	0.0%
<b>Grand Total</b>	<b>225,966</b>	<b>404,212</b>	<b>1.79</b>	<b>100.0%</b>

1. Based on peak monthly data (peak day data not available).

**Capacity Related Costs:** Costs associated with the maximum demand required at one point in time or the maximum size of facilities required to meet this demand.

CITY OF MORGAN HILL  
WATER RATE STUDY  
Water Cost of Service Analysis  
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Development of the Customer Allocation Factor		
Customer Class	Number of Meters <sup>1</sup>	Percent of Total
Residential SF- Inside	9,370	69.3%
Residential SF- Outside	312	2.3%
Residential - Multi-Family - Inside	1,996	14.8%
Commercial - Inside	1,573	11.6%
Commercial - Outside	3	0.0%
<b>Subtotal</b>	<b>13,254</b>	<b>98.1%</b>
Fire	262	1.9%
<b>Grand Total</b>	<b>13,516</b>	<b>100.0%</b>

1. Number of meters is from the Billed Consumption Report by Month spreadsheets (Month of July).

**Customer Related Costs** : Costs associated with having a customer on the water system. These costs vary with the addition or deletion of customers on the system. Examples: Meter-reading, Postage and billing.

CITY OF MORGAN HILL  
WATER RATE STUDY  
Water Cost of Service Analysis/Rate Design  
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**Meter Equivalency Factors Used in Fixed Charge Calculations:**

Meter Size	Standard Meters			Fire Service Meters	
	Meter Capacity (gpm) <sup>1</sup>	Residential Equivalency to 1-inch <sup>2</sup>	Commercial Equivalency to 1-inch	Meter Capacity (gpm) <sup>3</sup>	Equivalency to 1-inch
	<u>Displacement Meters</u>			<u>Displacement Meters</u>	
5/8 inch	20	1.00	1.00	20	0.40
3/4 inch	30	1.00	1.00	30	0.60
1 inch	50	1.00	1.00	50	1.00
1.5 inch	100	2.00	2.00	100	2.00
2 inch	160	3.20	3.20	160	3.20
	<u>Compound Class I Meters</u>			<u>Fire Service Type I &amp; II</u>	
3 inch	320	6.40	6.40	350	7.00
4 inch	500	10.00	10.00	700	14.00
6 inch	1,000	20.00	20.00	1,600	32.00
8 inch	1,600	32.00	32.00	2,800	56.00
	<u>Turbine Class II Meters</u>				
10 inch	4,200	84.00	84.00	4,400	88.00

1. Per AWWA M-1, Table B-1.

2. Residential meters 5/8" - 1" are all set to an equivalency factor of 1.0, per direction from City Staff.

3. Per AWWA M-6, Table 5-3.

Classification Components	Cost-of-Service Net Revenue Requirements (Test Year 2015-16)		Proposed Rate Adjusted Net Revenue Requirements (2015-16) 50% Fixed / 50% Variable	
Commodity-Related Costs	\$ 2,283,609	27%	\$ 3,563,500	42%
Capacity-Related Costs	\$ 4,899,679	58%	\$ 3,747,078	44%
Customer-Related Costs	\$ 541,107	6%	\$ 413,817	5%
Fire Protection-Related Costs	\$ 83,375	1%	\$ 83,375	1%
<b>Subtotal Revenue Requirement</b>	<b>\$ 7,807,770</b>	<b>92%</b>	<b>\$ 7,807,770</b>	<b>92%</b>
Zonal Related Costs <sup>1</sup>	\$ 680,770	8%	\$ 680,770	8%
<b>Net Total Revenue Requirement</b>	<b>\$ 8,488,540</b>	<b>100%</b>	<b>\$ 8,488,540</b>	<b>100%</b>

1. Zonal Related Costs are recovered via the zonal charge and are not included in this rate revenue calculation.

<u>Unadjusted Net Rev. Req'ts.</u>	<u>Adjusted Net Rev. Req'ts.</u>
35% total variable	50% total variable
65% total fixed	50% total fixed
100%	100%

CITY OF MORGAN HILL  
WATER RATE STUDY  
Water Cost of Service Analysis/Rate Design  
Draft Copy - Subject to Revision

**Allocation of FY 2015/16 Adjusted Net Revenue Requirements:** *Net Revenue Requirements (50% Fixed / 50% Variable)*

Customer Class	Cost Classification Components				Cost of Service Net Revenue Reqts	% of COS Net Revenue Reqts
	Commodity	Capacity	Customer	Fire Protection		
Residential	\$ 2,510,273	\$ 2,622,346	\$ 357,543	\$ -	\$ 5,490,163	70%
Non-Residential	\$ 1,053,227	\$ 1,124,733	\$ 48,252	\$ -	\$ 2,226,211	29%
Fire	\$ -	\$ -	\$ 8,022	\$ 83,375	\$ 91,396	1%
<b>Grand Total</b>	<b>\$ 3,563,500</b>	<b>\$ 3,747,078</b>	<b>\$ 413,817</b>	<b>\$ 83,375</b>	<b>\$ 7,807,770</b>	<b>100%</b>
	46%	48%	5%	1%	100%	
	46%		54%			

**CALCULATION OF MONTHLY RESIDENTIAL FIXED METER SERVICE CHARGES FOR FY 2015/16:**

*Net Revenue Requirements (50% Fixed / 50% Variable)*

Number of Meters by Class and Size <sup>1</sup>	FY2015-16										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
<b>Residential</b>	1,454	1,599	8,461	98	52	-	9	5	-	-	11,678
<i>Hydraulic Capacity Factor<sup>2</sup></i>	1.00	1.00	1.00	2.00	3.20	6.40	10.00	20.00	32.00	84.00	
<b>Total Equivalent Meters</b>	<b>1,454</b>	<b>1,599</b>	<b>8,461</b>	<b>196</b>	<b>166</b>	<b>-</b>	<b>90</b>	<b>100</b>	<b>-</b>	<b>-</b>	<b>12,066</b>
<b>Monthly Fixed Service Charges</b>											
Customer Costs (\$/Acct/mo.) <sup>3</sup>	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	
Capacity Costs (\$/Acct/mo.) <sup>4</sup>	18.11	18.11	18.11	36.22	57.95	115.91	181.11	362.21	579.54	1,521.28	
<b>Total Monthly Meter Charge</b>	<b>\$20.66</b>	<b>\$20.66</b>	<b>\$20.66</b>	<b>\$38.77</b>	<b>\$60.51</b>	<b>\$118.46</b>	<b>\$183.66</b>	<b>\$364.76</b>	<b>\$582.09</b>	<b>\$1,523.84</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>											
Customer Costs	\$ 357,543										
Capacity Costs	\$ 2,622,346										
<b>Total Fixed Meter Costs</b>	<b>\$ 2,979,889</b>										
<b>Annual Revenue from Monthly Meter Charges</b>											
Customer Charges	\$ 44,517	\$ 48,956	\$ 259,049	\$ 3,000	\$ 1,592	\$ -	\$ 276	\$ 153	\$ -	\$ -	\$ 357,543
Capacity Charges	315,992	347,505	1,838,797	42,596	36,163	-	19,559	21,733	-	-	\$ 2,622,346
<b>Total Revenue from Mo. Meter Charges</b>	<b>\$ 360,509</b>	<b>\$ 396,461</b>	<b>\$ 2,097,847</b>	<b>\$ 45,596</b>	<b>\$ 37,755</b>	<b>\$ -</b>	<b>\$ 19,835</b>	<b>\$ 21,886</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,979,889</b>

CITY OF MORGAN HILL  
WATER RATE STUDY  
Water Cost of Service Analysis/Rate Design  
Draft Copy - Subject to Revision

CALCULATION OF MONTHLY NON-RESIDENTIAL FIXED METER SERVICE CHARGES FOR FY 2015/16:

Net Revenue Requirements (50% Fixed / 50% Variable)

Number of Meters by Class and Size <sup>1</sup>	FY2015-16										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
<b>Non - Residential</b>	61	99	568	363	441	13	30	1	-	-	1,576
<i>Hydraulic Capacity Factor<sup>2</sup></i>	1.00	1.00	1.00	2.00	3.20	6.40	10.00	20.00	32.00	84.00	
<b>Total Equivalent Meters</b>	<b>61</b>	<b>99</b>	<b>568</b>	<b>726</b>	<b>1,411</b>	<b>83</b>	<b>300</b>	<b>20</b>	<b>-</b>	<b>-</b>	<b>3,268</b>
<b>Monthly Fixed Service Charges</b>											
Customer Costs (\$/Acct/mo.) <sup>3</sup>	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	
Capacity Costs (\$/Acct/mo.) <sup>4</sup>	28.68	28.68	28.68	57.35	91.77	183.53	286.77	573.54	917.66	2,408.86	
<b>Total Monthly Meter Charge</b>	<b>\$31.23</b>	<b>\$31.23</b>	<b>\$31.23</b>	<b>\$59.91</b>	<b>\$94.32</b>	<b>\$186.08</b>	<b>\$289.32</b>	<b>\$576.09</b>	<b>\$920.21</b>	<b>\$2,411.41</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>											
Customer Costs	\$ 48,252										
Capacity Costs	\$ 1,124,733										
<b>Total Fixed Meter Costs</b>	<b>\$ 1,172,985</b>										
<b>Annual Revenue from Monthly Meter Charges</b>											
Customer Charges	\$ 1,868	\$ 3,031	\$ 17,390	\$ 11,114	\$ 13,502	\$ 398	\$ 919	\$ 31	\$ -	\$ -	\$ 48,252
Capacity Charges	20,992	34,068	195,462	249,833	485,627	28,631	103,237	6,882	-	-	\$ 1,124,733
<b>Total Revenue from Mo. Meter Charges</b>	<b>\$ 22,859</b>	<b>\$ 37,099</b>	<b>\$ 212,852</b>	<b>\$ 260,947</b>	<b>\$ 499,129</b>	<b>\$ 29,029</b>	<b>\$ 104,155</b>	<b>\$ 6,913</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,172,985</b>

1. Number of meters by size and class is per the City of Morgan Hill's utility billing data as of July 2015 in the Billed Consumption Report by Month spreadsheets.
2. Source: AWWA Manual M1, "Principles of Water Rates, Fees, and Charges", Table B-1. Assumes displacement meters for 5/8 - 2 inch meters, Compound Class I for 3 - 8 inch meters, and Turbine Class II for 10 inch meters.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES COMMERCIAL FIRE METERS FOR FY 2015/16:

Net Revenue Requirements (50% Fixed / 50% Variable)

Number of Meters by Class and Size <sup>1</sup>	FY2015-16										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
<b>Fire Meters</b>	-	-	-	-	-	-	64	126	67	5	262
<i>Hydraulic Capacity Factor<sup>2</sup></i>	0.40	0.60	1.00	2.00	3.20	7.00	14.00	32.00	56.00	88.00	
<b>Total Equivalent Meters</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>896</b>	<b>4,032</b>	<b>3,752</b>	<b>440</b>	<b>9,120</b>
<b>Monthly Fixed Service Charges</b>											
Customer Costs (\$/Acct/mo.) <sup>3</sup>	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	\$2.55	
Fire Protection Costs (\$/Acct/mo.) <sup>4</sup>	\$0.30	\$0.46	\$0.76	\$1.52	\$2.44	\$5.33	\$10.67	\$24.38	\$42.66	\$67.04	
<b>Total Monthly Meter Charge</b>	<b>\$2.86</b>	<b>\$3.01</b>	<b>\$3.31</b>	<b>\$4.08</b>	<b>\$4.99</b>	<b>\$7.88</b>	<b>\$13.22</b>	<b>\$26.93</b>	<b>\$45.21</b>	<b>\$69.59</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>											
Customer Costs	\$ 8,022										
Fire Protection Costs	\$ 83,375										
<b>Total Fixed Meter Costs</b>	<b>\$ 83,375</b>										
<b>Annual Revenue from Monthly Meter Charges</b>											
Customer Charges	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,959	\$ 3,858	\$ 2,051	\$ 153	\$ 8,022
Fire Protection Costs	-	-	-	-	-	-	8,191	36,860	34,301	4,022	\$ 83,375
<b>Total Revenue from Mo. Meter Charges</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 10,151</b>	<b>\$ 40,718</b>	<b>\$ 36,352</b>	<b>\$ 4,176</b>	<b>\$ 91,396</b>

1. Number of meters by size and class is per the City of Morgan Hill's utility billing data as of July 2015 in the Billed Consumption Report by Month spreadsheets.
2. Source: AWWA Manual M6, "Water Meters - Selection, Installation, Testing and Maintenance", Table 5-3. Assumes Displacement Meters for 5/8 - 2 inch meters and Fire Service Type I & II for 3 - 10 inch meters.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Fire Protection costs are allocated by meter size and the hydraulic capacity of the meter.

CITY OF MORGAN HILL  
WATER RATE STUDY  
Water Cost of Service Analysis/Rate Design  
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**Projected Revenue From Fixed Charges by Customer Class** **Net Revenue Requirements (50% Fixed / 50% Variable)**

Number of Meters by Class and Size <sup>1</sup>	FY2015-16										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
Residential	1,454	1,599	8,461	98	52	-	9	5	-	-	11,678
Non-Residential	61	99	568	363	441	13	30	1	-	-	1,576
Fire Meters	-	-	-	-	-	-	64	126	67	5	262
<b>Total Meters/Accounts</b>	<b>1,515</b>	<b>1,698</b>	<b>9,029</b>	<b>461</b>	<b>493</b>	<b>13</b>	<b>103</b>	<b>132</b>	<b>67</b>	<b>5</b>	<b>13,516</b>
<i>Residential Fixed Charges by Meter Size</i>	<i>\$20.66</i>	<i>\$20.66</i>	<i>\$20.66</i>	<i>\$38.77</i>	<i>\$60.51</i>	<i>\$118.46</i>	<i>\$183.66</i>	<i>\$364.76</i>	<i>\$582.09</i>	<i>\$1,523.84</i>	
<i>Non-Residential Fixed Charges by Meter</i>	<i>\$31.23</i>	<i>\$31.23</i>	<i>\$31.23</i>	<i>\$59.91</i>	<i>\$94.32</i>	<i>\$186.08</i>	<i>\$289.32</i>	<i>\$576.09</i>	<i>\$920.21</i>	<i>\$2,411.41</i>	
<i>Fixed Charges - Fire Meters Only</i>	<i>\$2.86</i>	<i>\$3.01</i>	<i>\$3.31</i>	<i>\$4.08</i>	<i>\$4.99</i>	<i>\$7.88</i>	<i>\$13.22</i>	<i>\$26.93</i>	<i>\$45.21</i>	<i>\$69.59</i>	
<b>Revenue from Fixed Charges</b>											
Residential	\$ 360,509	\$ 396,461	\$ 2,097,847	\$ 45,596	\$ 37,755	\$ -	\$ 19,835	\$ 21,886	\$ -	\$ -	\$ 2,979,889
Non-Residential	\$ 22,859	\$ 37,099	\$ 212,852	\$ 260,947	\$ 499,129	\$ 29,029	\$ 104,155	\$ 6,913	\$ -	\$ -	\$ 1,172,985
Fire	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,151	\$ 40,718	\$ 36,352	\$ 4,176	\$ 91,396
<b>Total Revenue - Fixed Charges</b>											<b>\$ 4,244,270</b>

CITY OF MORGAN HILL  
WATER RATE STUDY  
Water Cost of Service Analysis/Rate Design  
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**Proposed Rate - Revenue Requirements (Allocation - 50% Fixed / 50% Variable) - Fiscal Year 2017/18**

Classification Components	Adjusted Net Revenue Requirements (2017-18) <sup>1</sup>	
Commodity-Related Costs	\$ 4,867,058	42%
Capacity-Related Costs	\$ 5,117,790	44%
Customer-Related Costs	\$ 565,195	5%
Fire Protection-Related Costs	\$ 113,874	1%
<b>Subtotal Revenue Requirement</b>	<b>\$ 10,663,917</b>	<b>92%</b>
Zonal Related Costs <sup>2</sup>	\$ 929,801	8%
<b>Net Total Revenue Requirement</b>	<b>\$ 11,593,719</b>	<b>100%</b>

Adjusted Net Rev. Req'ts.  
50% total variable  
50% total fixed  
100%

1. Due to customer growth, rates need to be re-calculated.

2. Zonal Related Costs are recovered via the zonal charge and are not included in this rate revenue calculation.

**Allocation of FY 2017/18 Adjusted Net Revenue Requirements: Net Revenue Requirements (50% Fixed / 50% Variable)**

Customer Class	Cost Classification Components				Cost of Service Net Revenue	% of COS Net Revenue Reqts
	Commodity	Capacity	Customer	Fire Protection		
Residential	\$ 3,428,552	\$ 3,581,621	\$ 488,336	\$ -	\$ 7,498,509	70%
Non-Residential	\$ 1,438,506	\$ 1,536,169	\$ 65,903	\$ -	\$ 3,040,578	29%
Fire	\$ -	\$ -	\$ 10,956	\$ 113,874	\$ 124,830	1%
<b>Grand Total</b>	<b>\$ 4,867,058</b>	<b>\$ 5,117,790</b>	<b>\$ 565,195</b>	<b>\$ 113,874</b>	<b>\$ 10,663,917</b>	<b>100%</b>
	46%	48%	5%	1%	100%	
	46%		54%			

**CALCULATION OF MONTHLY RESIDENTIAL FIXED METER SERVICE CHARGES FOR FY 2017/18:**

**Net Revenue Requirements (50% Fixed / 50% Variable)**

Number of Meters by Class and Size <sup>1</sup>	Projected FY 2017-18										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
<b>Residential</b>	1,513	1,664	8,803	102	54	-	9	5	-	-	12,150
<i>Hydraulic Capacity Factor <sup>2</sup></i>	1.00	1.00	1.00	2.00	3.20	6.40	10.00	20.00	32.00	84.00	
<b>Total Equivalent Meters</b>	<b>1,513</b>	<b>1,664</b>	<b>8,803</b>	<b>204</b>	<b>173</b>	<b>-</b>	<b>94</b>	<b>104</b>	<b>-</b>	<b>-</b>	<b>12,554</b>
<b>Monthly Fixed Service Charges</b>											
Customer Costs (\$/Acct/mo.) <sup>3</sup>	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	
Capacity Costs (\$/Acct/mo.) <sup>4</sup>	23.77	23.77	23.77	47.55	76.08	152.16	237.75	475.50	760.80	1,997.10	
<b>Total Monthly Meter Charge</b>	<b>\$27.12</b>	<b>\$27.12</b>	<b>\$27.12</b>	<b>\$50.90</b>	<b>\$79.43</b>	<b>\$155.51</b>	<b>\$241.10</b>	<b>\$478.85</b>	<b>\$764.15</b>	<b>\$2,000.45</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>											
Customer Costs	\$ 488,336										
Capacity Costs	\$ 3,581,621										
<b>Total Fixed Meter Costs</b>	<b>\$ 4,069,957</b>										
<b>Annual Revenue from Monthly Meter Charges</b>											
Customer Charges	\$ 60,802	\$ 66,865	\$ 353,811	\$ 4,098	\$ 2,174	\$ -	\$ 376	\$ 209	\$ -	\$ -	\$ 488,336
Capacity Charges	431,585	474,625	2,511,445	58,178	49,392	-	26,714	29,683	-	-	\$ 3,581,621
<b>Total Revenue from Mo. Meter Charges</b>	<b>\$ 492,387</b>	<b>\$ 541,490</b>	<b>\$ 2,865,256</b>	<b>\$ 62,276</b>	<b>\$ 51,566</b>	<b>\$ -</b>	<b>\$ 27,091</b>	<b>\$ 29,892</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,069,957</b>

CITY OF MORGAN HILL  
WATER RATE STUDY  
Water Cost of Service Analysis/Rate Design  
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**CALCULATION OF MONTHLY NON-RESIDENTIAL FIXED METER SERVICE CHARGES FOR FY 2017/18:**

**Net Revenue Requirements (50% Fixed / 50% Variable)**

Number of Meters by Class and Size <sup>1</sup>	Projected FY 2017-18										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
<b>Non - Residential</b>	63	103	591	378	459	14	31	1	-	-	1,640
<i>Hydraulic Capacity Factor<sup>2</sup></i>	1.00	1.00	1.00	2.00	3.20	6.40	10.00	20.00	32.00	84.00	
<b>Total Equivalent Meters</b>	<b>63</b>	<b>103</b>	<b>591</b>	<b>755</b>	<b>1,468</b>	<b>87</b>	<b>312</b>	<b>21</b>	<b>-</b>	<b>-</b>	<b>3,400</b>
<b>Monthly Fixed Service Charges</b>											
Customer Costs (\$/Acct/mo.) <sup>3</sup>	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	
Capacity Costs (\$/Acct/mo.) <sup>4</sup>	37.65	37.65	37.65	75.29	120.47	240.94	376.46	752.93	1,204.68	3,162.29	
<b>Total Monthly Meter Charge</b>	<b>\$41.00</b>	<b>\$41.00</b>	<b>\$41.00</b>	<b>\$78.64</b>	<b>\$123.82</b>	<b>\$244.29</b>	<b>\$379.81</b>	<b>\$756.28</b>	<b>\$1,208.03</b>	<b>\$3,165.64</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>											
Customer Costs	\$ 65,903										
Capacity Costs	\$ 1,536,169										
<b>Total Fixed Meter Costs</b>	<b>\$ 1,602,072</b>										
<b>Annual Revenue from Monthly Meter Charges</b>											
Customer Charges	\$ 2,551	\$ 4,140	\$ 23,752	\$ 15,179	\$ 18,441	\$ 544	\$ 1,255	\$ 42	\$ -	\$ -	\$ 65,903
Capacity Charges	28,670	46,531	266,964	341,225	663,273	39,105	141,002	9,400	-	-	\$ 1,536,169
<b>Total Revenue from Mo. Meter Charges</b>	<b>\$ 31,221</b>	<b>\$ 50,670</b>	<b>\$ 290,716</b>	<b>\$ 356,404</b>	<b>\$ 681,714</b>	<b>\$ 39,648</b>	<b>\$ 142,256</b>	<b>\$ 9,442</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,602,072</b>

1. Number of meters by size and class increased by the expected growth in connections to the water system.
2. Source: AWWA Manual M1, "Principles of Water Rates, Fees, and Charges", Table B-1. Assumes displacement meters for 5/8 - 2 inch meters, Compound Class I for 3 - 8 inch meters, and Turbine Class II for 10 inch meters.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

**CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES COMMERCIAL FIRE METERS FOR FY 2017/18:**

**Net Revenue Requirements (50% Fixed / 50% Variable)**

Number of Meters by Class and Size <sup>1</sup>	Projected FY 2017-18										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
<b>Fire Meters</b>	-	-	-	-	-	-	67	131	70	5	273
<i>Hydraulic Capacity Factor<sup>2</sup></i>	0.40	0.60	1.00	2.00	3.20	7.00	14.00	32.00	56.00	88.00	
<b>Total Equivalent Meters</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>932</b>	<b>4,195</b>	<b>3,904</b>	<b>458</b>	<b>9,488</b>
<b>Monthly Fixed Service Charges</b>											
Customer Costs (\$/Acct/mo.) <sup>3</sup>	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	
Fire Protection Costs (\$/Acct/mo.) <sup>4</sup>	\$0.40	\$0.60	\$1.00	\$2.00	\$3.20	\$7.00	\$14.00	\$32.00	\$56.01	\$88.01	
<b>Total Monthly Meter Charge</b>	<b>\$3.75</b>	<b>\$3.95</b>	<b>\$4.35</b>	<b>\$5.35</b>	<b>\$6.55</b>	<b>\$10.35</b>	<b>\$17.35</b>	<b>\$35.35</b>	<b>\$59.36</b>	<b>\$91.36</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>											
Customer Costs	\$ 10,956										
Fire Protection Costs	\$ 113,874										
<b>Total Fixed Meter Costs</b>	<b>\$ 113,874</b>										
<b>Annual Revenue from Monthly Meter Charges</b>											
Customer Charges	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,676	\$ 5,269	\$ 2,802	\$ 209	\$ 10,956
Fire Protection Costs	-	-	-	-	-	-	11,188	50,344	46,848	5,494	\$ 113,874
<b>Total Revenue from Mo. Meter Charges</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 13,864</b>	<b>\$ 55,613</b>	<b>\$ 49,650</b>	<b>\$ 5,703</b>	<b>\$ 124,830</b>

1. Number of meters by size and class increased by the expected growth in connections to the water system.
2. Source: AWWA Manual M6, "Water Meters - Selection, Installation, Testing and Maintenance", Table 5-3. Assumes Displacement Meters for 5/8 - 2 inch meters and Fire Service Type I & II for 3 - 10 inch meters.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Fire Protection costs are allocated by meter size and the hydraulic capacity of the meter.



CITY OF MORGAN HILL  
WATER RATE STUDY  
Water Cost of Service Analysis/Rate Design  
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**Projected Revenue From Fixed Charges by Customer Class** **Net Revenue Requirements (50% Fixed / 50% Variable)**

Number of Meters by Class and Size <sup>1</sup>	FY2017-18										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
Residential	1,513	1,664	8,803	102	54	-	9	5	-	-	12,150
Non-Residential	63	103	591	378	459	14	31	1	-	-	1,640
Fire Meters	-	-	-	-	-	-	67	131	70	5	273
<b>Total Meters/Accounts</b>	<b>1,576</b>	<b>1,767</b>	<b>9,394</b>	<b>480</b>	<b>513</b>	<b>14</b>	<b>107</b>	<b>137</b>	<b>70</b>	<b>5</b>	<b>14,062</b>
<i>Residential Fixed Charges by Meter Size</i>	<i>\$27.12</i>	<i>\$27.12</i>	<i>\$27.12</i>	<i>\$50.90</i>	<i>\$79.43</i>	<i>\$155.51</i>	<i>\$241.10</i>	<i>\$478.85</i>	<i>\$764.15</i>	<i>\$2,000.45</i>	
<i>Non-Residential Fixed Charges by Meter</i>	<i>\$41.00</i>	<i>\$41.00</i>	<i>\$41.00</i>	<i>\$78.64</i>	<i>\$123.82</i>	<i>\$244.29</i>	<i>\$379.81</i>	<i>\$756.28</i>	<i>\$1,208.03</i>	<i>\$3,165.64</i>	
<i>Fixed Charges - Fire Meters Only</i>	<i>\$3.75</i>	<i>\$3.95</i>	<i>\$4.35</i>	<i>\$5.35</i>	<i>\$6.55</i>	<i>\$10.35</i>	<i>\$17.35</i>	<i>\$35.35</i>	<i>\$59.36</i>	<i>\$91.36</i>	
<b>Revenue from Fixed Charges</b>											
Residential	\$ 492,387	\$ 541,490	\$ 2,865,256	\$ 62,276	\$ 51,566	\$ -	\$ 27,091	\$ 29,892	\$ -	\$ -	\$ 4,069,957
Non-Residential	\$ 31,221	\$ 50,670	\$ 290,716	\$ 356,404	\$ 681,714	\$ 39,648	\$ 142,256	\$ 9,442	\$ -	\$ -	\$ 1,602,072
Fire	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13,864	\$ 55,613	\$ 49,650	\$ 5,703	\$ 124,830
<b>Total Revenue - Fixed Charges</b>											<b>\$ 5,796,859</b>

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WATER RATE STUDY  
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**Proposed Rate - FY2015/16 Revenue Requirements (Allocation - 50% Fixed / 50% Variable)**

Customer Classes	Number of Meters <sup>1</sup>	Water Consumption (hcf/yr) <sup>2</sup>	Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates (\$/hcf)	Proposed Rate Structure
Residential	11,678	1,528,097	\$ 2,510,273	29.6%	\$1.643	Uniform
Non-Residential	1,576	641,138	\$ 1,053,227	12.4%	\$1.643	Uniform
<b>Subtotal</b>	<b>13,254</b>	<b>2,169,235</b>	<b>\$ 3,563,500</b>	<b>42%</b>		
Fire	262	0	\$ -	0.0%	\$1.643	Uniform
<b>Grand Total</b>	<b>13,516</b>	<b>2,169,235</b>	<b>\$ 3,563,500</b>	<b>42%</b>		

**Proposed Rate - FY2017/18 Revenue Requirements (Allocation - 50% Fixed / 50% Variable)**

Customer Classes	Number of Meters <sup>4</sup>	Water Consumption (hcf/yr) <sup>4</sup>	Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates (\$/hcf)	Proposed Rate Structure
Residential	12,150	1,748,815	\$ 3,428,552	32.2%	\$1.961	Uniform
Non-Residential	1,640	733,744	\$ 1,438,506	13.5%	\$1.961	Uniform
<b>Subtotal</b>	<b>13,789</b>	<b>2,482,559</b>	<b>\$ 4,867,058</b>	<b>46%</b>		
Fire	273	0	\$ -	0.0%	\$1.961	Uniform
<b>Grand Total</b>	<b>14,062</b>	<b>2,482,559</b>	<b>\$ 4,867,058</b>	<b>46%</b>		

1. Number of meters by size and class is per the City of Morgan Hill's utility billing data as of July 2015 in the Billed Consumption Report by Month spreadsheets, and increased by projected customer growth in FY 2017/18 rate calculation.
2. Water consumption is 20% less than FY2014/15 consumption by customer class to account for additional conservation.
3. Volumetric rates are re-calculated for FY 2017/18 due to customer growth.
4. Number of meters by size and class, and water consumption is increased by the expected growth in connections to the water system.

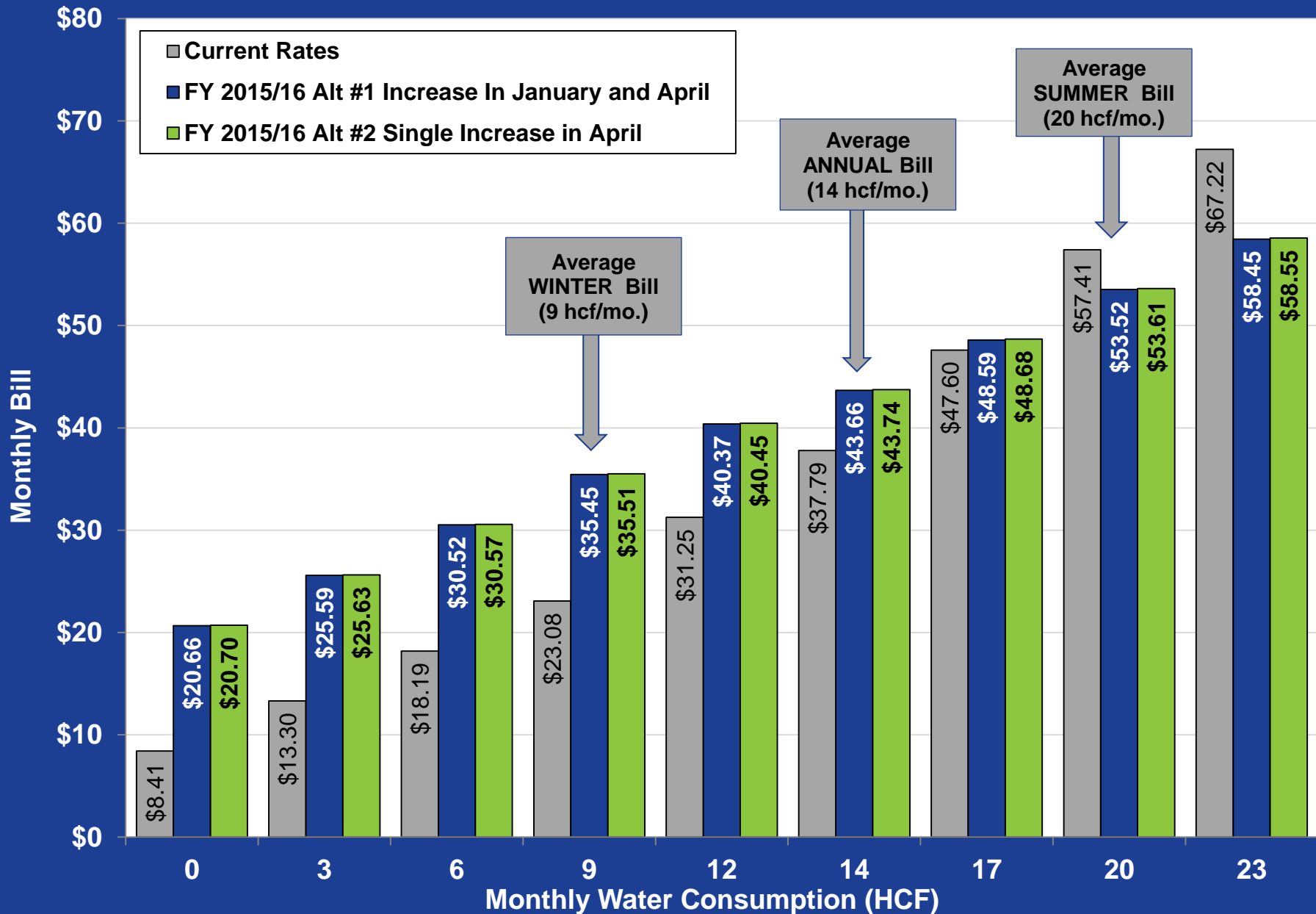
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WATER RATE STUDY  
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Current vs. Proposed Water Rates:

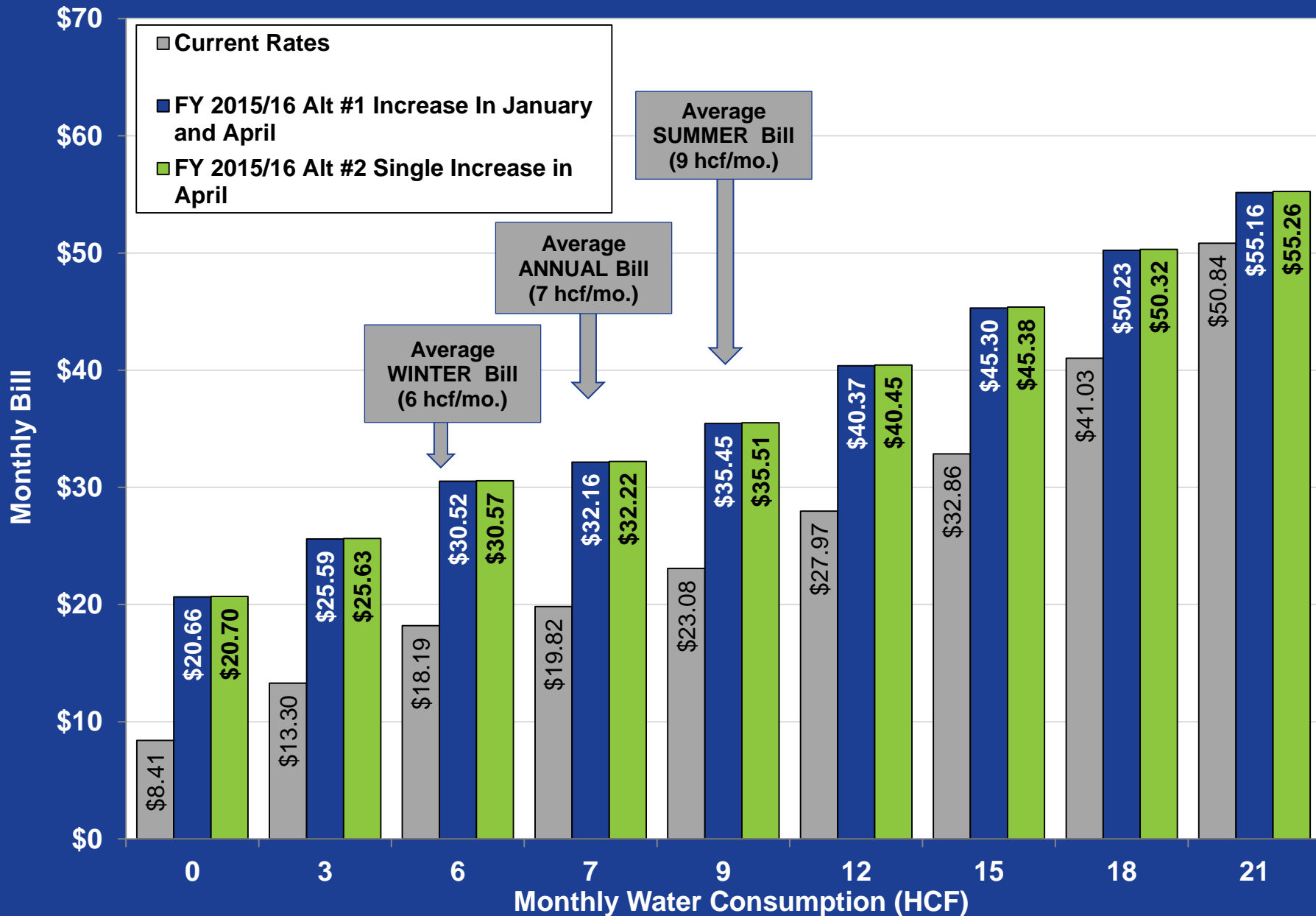
Water Rate Schedule	Current Rates	Proposed Water Rates 50% Fixed / 50% Variable				
		FY 2015/16 <sup>1</sup>	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
Projected Increase in Rate Revenue per Financial Plan:		9.00%	7.25%	7.25%	7.25%	7.25%
<b>Fixed Service Charges</b>	<b>Monthly Rates</b>					
<u>Single- and Multi-Family Residential:</u>						
5/8 inch	\$8.41	\$20.66	\$22.16	\$27.12	\$29.09	\$31.20
3/4 inch	\$8.41	\$20.66	\$22.16	\$27.12	\$29.09	\$31.20
1 inch	\$8.41	\$20.66	\$22.16	\$27.12	\$29.09	\$31.20
1.5 inch	\$13.99	\$38.77	\$41.58	\$50.90	\$54.59	\$58.55
2 inch	\$22.48	\$60.51	\$64.89	\$79.43	\$85.19	\$91.36
3 inch	\$44.90	\$118.46	\$127.05	\$155.51	\$166.78	\$178.88
4 inch	\$72.69	\$183.66	\$196.97	\$241.10	\$258.58	\$277.33
6 inch	\$111.65	\$364.76	\$391.21	\$478.85	\$513.57	\$550.80
<u>Non-Residential:</u>						
5/8 inch	\$8.41	\$31.23	\$33.49	\$41.00	\$43.97	\$47.16
3/4 inch	\$8.41	\$31.23	\$33.49	\$41.00	\$43.97	\$47.16
1 inch	\$8.41	\$31.23	\$33.49	\$41.00	\$43.97	\$47.16
1.5 inch	\$13.99	\$59.91	\$64.25	\$78.64	\$84.34	\$90.46
2 inch	\$22.48	\$94.32	\$101.16	\$123.82	\$132.79	\$142.42
3 inch	\$44.90	\$186.08	\$199.57	\$244.29	\$262.00	\$280.99
4 inch	\$72.69	\$289.32	\$310.30	\$379.81	\$407.35	\$436.88
6 inch	\$111.65	\$576.09	\$617.86	\$756.28	\$811.11	\$869.91
<u>Fire Service:</u>						
3 inch	--	\$7.88	\$8.46	\$10.35	\$11.10	\$11.91
4 inch	\$16.58	\$13.22	\$14.18	\$17.35	\$18.61	\$19.96
6 inch	\$24.86	\$26.93	\$28.88	\$35.35	\$37.92	\$40.66
8 inch	\$33.15	\$45.21	\$48.49	\$59.36	\$63.66	\$68.27
10 inch	\$41.43	\$69.59	\$74.64	\$91.36	\$97.98	\$105.09
<b>Volumetric Charges</b>						
<u>Single-Family Res / Multi-Family Res per DU:</u>						
Tier 1 (1-10 hcf / 1-8 hcf)	\$1.63	--	--	--	--	--
Tier 2 (11-30 hcf / 9-16 hcf)	\$3.27	--	--	--	--	--
Tier 3 (31+ hcf / 17+)	\$4.90	--	--	--	--	--
Uniform Rate, Non-Residential Customers	\$2.67	--	--	--	--	--
Uniform Rate, All Customers	--	\$1.64	\$1.76	\$1.96	\$2.10	\$2.26

1. The Fiscal Year 2015/16 rate increase will be effective April 1, 2016, and all subsequent rate increases will be effective on January 1st of each year. In this rate alternatives, the previously approved and adopted 6.25% increase planned for January 1, 2016 will be implemented.

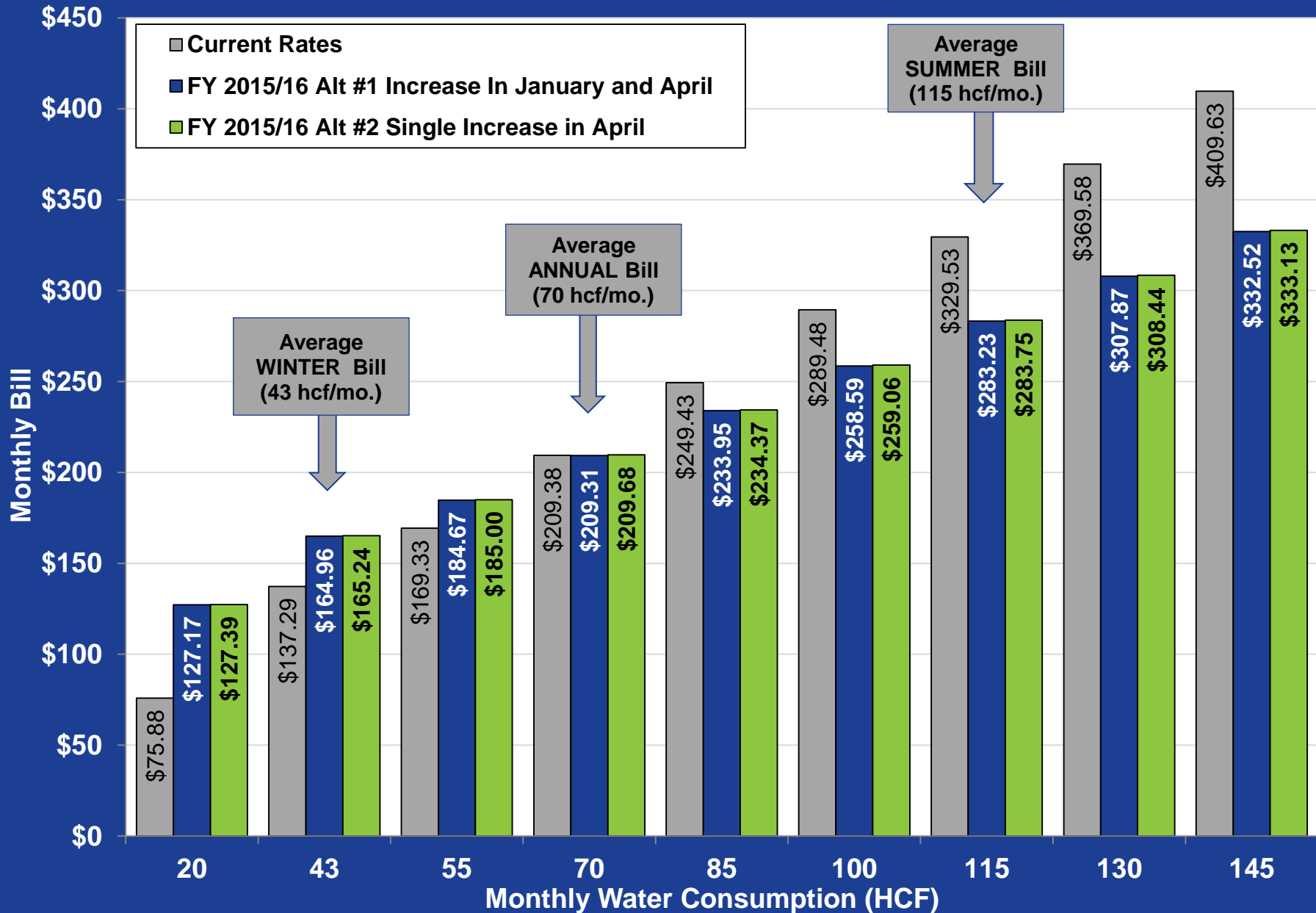
# Single-Family Residential Bill Comparison Fiscal Year 2015/16 (1" meter)



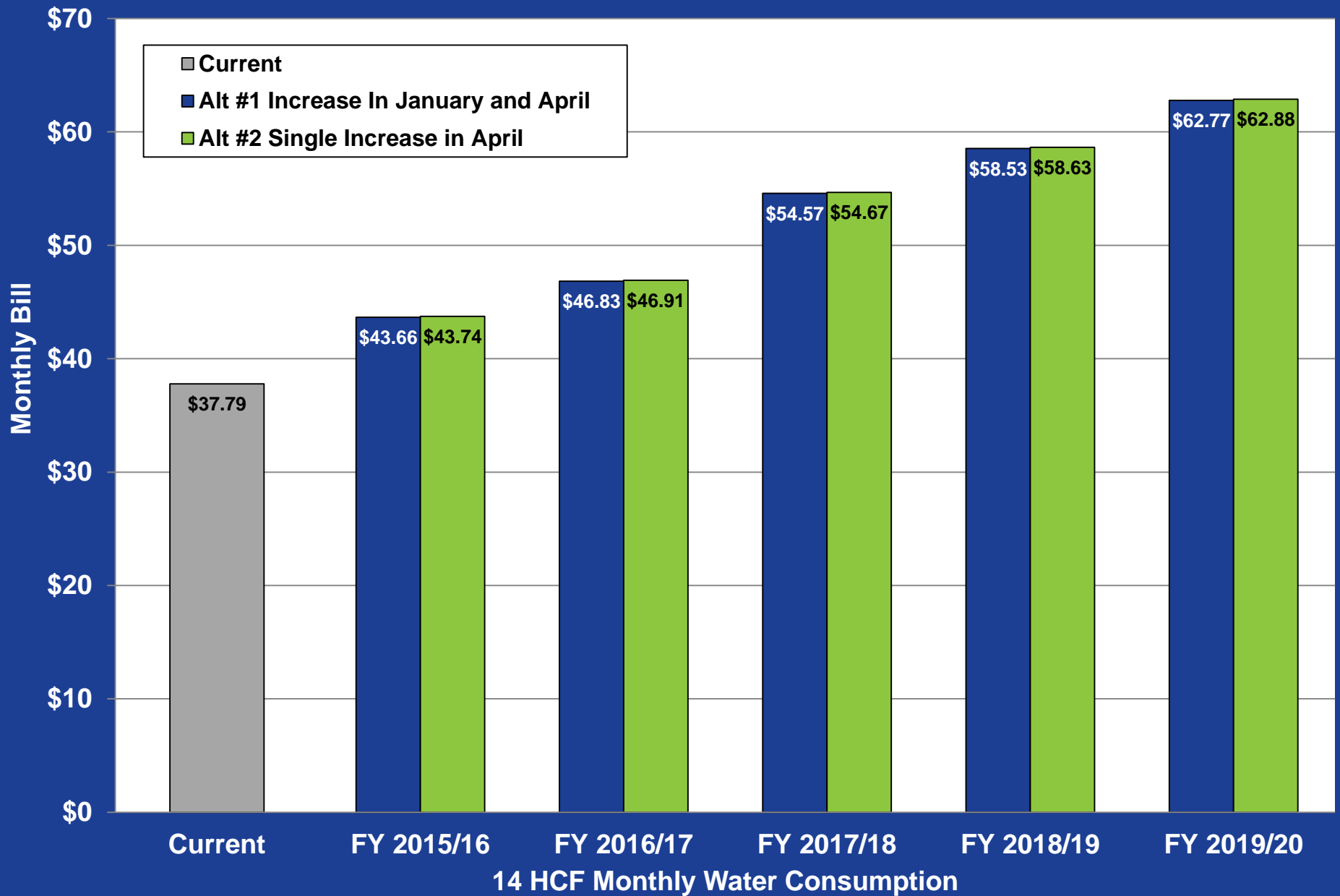
## Multi-Family Residential, Two Dwelling Unit Bill Comparison Fiscal Year 2015/16 (1" meter)



# Commercial Customer Monthly Bill Comparison Fiscal Year 2015/16 (2" meter)



## Average Single-Family Residential Bill Comparison Fiscal Years 2015/16 *through* 2019/20 (1" meter)



## **APPENDIX B - ALTERNATIVE #2 WATER RATE ANALYSIS**



TABLE 1  
FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Sources of Water Funds</b>					
<b>Rate Revenue:</b>					
Standard Rate Revenue - Prevailing Rates <sup>1</sup>	\$ 7,329,555	\$ 7,476,146	\$ 8,703,075	\$ 8,877,136	\$ 9,054,679
<b>Non-Rate Revenue in Operations &amp; System Replacement Funds:</b>					
Interest Income <sup>2</sup>	47,138	2,904	2,967	5,827	15,622
Other, Non-Rate Revenues	1,111,704	939,388	923,229	948,840	962,224
<b>Total Sources of Funds</b>	<b>\$ 8,488,396</b>	<b>\$ 8,418,437</b>	<b>\$ 9,629,271</b>	<b>\$ 9,831,803</b>	<b>\$ 10,032,525</b>
<b>Uses of Water Funds</b>					
<b>Operating Expenses <sup>3</sup>:</b>					
Water Operations	\$ 7,241,771	\$ 7,509,564	\$ 8,143,747	\$ 8,440,968	\$ 8,719,355
Water Operations - Capital Expenses	889,151	817,661	819,815	822,013	824,256
Utility Billing	599,894	614,764	633,407	655,040	676,212
Water Conservation	188,239	103,798	106,900	110,116	113,423
Water Rate Stabilization Fund	603	624	645	668	691
Water System Replacement Fund	4,993	5,160	5,333	5,511	5,696
Subtotal: Operating Expenses	\$ 8,924,651	\$ 9,051,571	\$ 9,709,848	\$ 10,034,316	\$ 10,339,632
Other Expenditures:					
Existing Debt Service (Replacement Fund Allocation of 59%) <sup>4</sup>	\$ 939,538	\$ 945,549	\$ 944,774	\$ 943,336	\$ 944,184
New Debt Service	-	-	-	-	-
Rate-Funded Capital Expenses	-	-	419,639	1,109,361	1,148,410
Subtotal: Other Expenditures	\$ 939,538	\$ 945,549	\$ 1,364,413	\$ 2,052,697	\$ 2,092,595
<b>Total Uses of Water Funds</b>	<b>\$ 9,864,189</b>	<b>\$ 9,997,120</b>	<b>\$ 11,074,261</b>	<b>\$ 12,087,013</b>	<b>\$ 12,432,227</b>
plus: Revenue from Rate Increases <sup>5</sup>	293,182	1,510,555	2,516,917	3,396,974	4,372,584
<b>Increase/Decrease to Reserves</b>	<b>\$ (1,082,611)</b>	<b>\$ (68,128)</b>	<b>\$ 1,071,927</b>	<b>\$ 1,141,764</b>	<b>\$ 1,972,882</b>
<b>Net Revenue Reqtd. (Total Uses less Non-Rate Revenue)</b>	<b>\$ 8,705,347</b>	<b>\$ 9,054,829</b>	<b>\$ 10,148,065</b>	<b>\$ 11,132,347</b>	<b>\$ 11,454,381</b>
<b>Total Rate Revenue After Rate Increases</b>	<b>\$ 7,622,737</b>	<b>\$ 8,986,701</b>	<b>\$ 11,219,992</b>	<b>\$ 12,274,110</b>	<b>\$ 13,427,263</b>
<b>Projected Annual Rate Revenue Increase</b>	<b>16.00%</b>	<b>7.25%</b>	<b>7.25%</b>	<b>7.25%</b>	<b>7.25%</b>
Cumulative Increase from Annual Revenue Increases	16.00%	24.41%	33.43%	43.10%	53.48%
<b>Debt Coverage After Rate Increase <sup>6</sup></b>	<b>1.52</b>	<b>1.88</b>	<b>2.63</b>	<b>3.11</b>	<b>3.62</b>
<b>Target Debt Coverage</b>	<b>1.20</b>	<b>1.20</b>	<b>1.20</b>	<b>1.20</b>	<b>1.20</b>
<b>Estimated Annual Change in Rate Revenue Due to Conservation <sup>7</sup></b>	<b>-18%</b>	<b>2%</b>	<b>16%</b>	<b>2%</b>	<b>2%</b>

- City's revenue projections were updated to assume 30% conservation effective FY 2015/16 and beyond with 2% annual growth.
- Interest earnings for FY 2015/16 are per the City's budget projections. For all future years, interest earnings are calculated here based on historical LAIF returns and projected cash balances.
- The FY16-FY20 operating expenses are per the City's budget projections. Inflationary factors are applied to these expenses to project costs in FY21 and beyond.
- Per Staff's direction in an email on 10.7.15, the debt service payment on the 2014 Water Revenue Bonds is split as follows:  
41% to the Water Impact Fund (651) and 59% to the Water System Replacement Fund (653).
- Revenue from rate increases in FY 2015/16 assumes previously approved rates are implemented on 1/1/2016, so the City will collect 6 months of the increased rate revenue for the first year of the adjustment. The rate increase for shown for FY 2016/17 will be effective July 1, 2016, and that all future rate increases will occur on January 1st in 2017 and beyond.
- Per the Installment Loan Agreement for the 2014 Revenue Bonds, the City is required to maintain a debt coverage ratio of 1.20 for these bond issues and all other parity debt. Connection Fee revenue and interest earnings in that fund are figured into this calculation.
- Per City Staff rate revenue projections. An overall decrease in rate revenue of 18% is expected in FY 2015/16 and a rebound in consumption in FY 2017/18.

TABLE 2  
RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Total Beginning Cash <sup>1</sup></b>	<b>\$ 6,482,485</b>				
<b>Water Operations Fund (650)</b>					
Beginning Reserve Balance <sup>1</sup>	\$ 2,744,148	\$ 1,161,537	\$ 593,410	\$ 1,165,337	\$ 2,082,893
Plus: Net Cash Flow (After Rate Increases)	(1,082,611)	(68,128)	1,071,927	1,141,764	1,972,882
Plus: Transfer of Debt Reserve Surplus	-	-	-	-	-
Plus: Transfer of Rate Stabilization Reserve Surplus	-	-	-	100,792	22,807
Less: Transfer Out to Water System Replacement Reserve	-	-	-	-	(1,493,582)
Less: Transfer Out to Rate Stabilization Fund	(500,000)	(500,000)	(500,000)	(325,000)	(45,000)
<b>Ending Operating Reserve Balance</b>	<b>\$ 1,161,537</b>	<b>\$ 593,410</b>	<b>\$ 1,165,337</b>	<b>\$ 2,082,893</b>	<b>\$ 2,540,000</b>
<b>Target Ending Balance (90-days of O&amp;M) <sup>2</sup></b>	<b>\$ 2,231,000</b>	<b>\$ 2,263,000</b>	<b>\$ 2,427,000</b>	<b>\$ 2,509,000</b>	<b>\$ 2,585,000</b>
<b>Water System Replacement Fund (653)</b>					
Beginning Reserve Balance <sup>1</sup>	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: Grant Proceeds	-	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	-	-	-	-	1,493,582
Less: Use of Reserves for Capital Projects	-	-	-	-	-
<b>Ending Capital Improvement &amp; Depreciation Reserve Bal.</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,493,582</b>
<b>Target Ending Balance (3% of Assets) <sup>3</sup></b>	<b>\$ 1,407,700</b>	<b>\$ 1,399,400</b>	<b>\$ 1,426,500</b>	<b>\$ 1,437,600</b>	<b>\$ 1,436,900</b>
<b>Rate Stabilization Fund (652)</b>					
Beginning Reserve Balance <sup>1</sup>	\$ 36,785	\$ 536,968	\$ 1,038,310	\$ 1,543,502	\$ 1,775,427
Plus: Contributions to Rate Stabilization Fund	500,000	500,000	500,000	325,000	45,000
Plus: Interest Earnings <sup>4</sup>	183	1,342	5,192	7,718	13,316
Less: Transfer of Surplus to Operating Reserve	-	-	-	(100,792)	(22,807)
<b>Ending Debt Reserve Balance</b>	<b>\$ 536,968</b>	<b>\$ 1,038,310</b>	<b>\$ 1,543,502</b>	<b>\$ 1,775,427</b>	<b>\$ 1,810,936</b>
<b>Target Ending Balance (20% of Estimated Revenue) <sup>2</sup></b>	<b>\$ 1,465,911</b>	<b>\$ 1,495,229</b>	<b>\$ 1,740,615</b>	<b>\$ 1,775,427</b>	<b>\$ 1,810,936</b>
<b>Ending Balance - Excludes Debt Reserve</b>	<b>\$ 1,698,505</b>	<b>\$ 1,631,720</b>	<b>\$ 2,708,839</b>	<b>\$ 3,858,320</b>	<b>\$ 5,844,518</b>
<b>Minimum Target Ending Balance - Excludes Debt Reserve</b>	<b>\$ 5,104,611</b>	<b>\$ 5,157,629</b>	<b>\$ 5,594,115</b>	<b>\$ 5,722,027</b>	<b>\$ 5,832,836</b>
<b>Ending Surplus/(Deficit) Compared to Reserve Targets</b>	<b>\$ (3,406,106)</b>	<b>\$ (3,525,909)</b>	<b>\$ (2,885,276)</b>	<b>\$ (1,863,707)</b>	<b>\$ 11,682</b>
<b>Days Cash on Hand for Unrestricted Funds <sup>5</sup></b>	<b>63</b>	<b>60</b>	<b>93</b>	<b>129</b>	<b>190</b>

**CITY OF MORGAN HILL**  
**WATER RATE STUDY**  
**Financial Plan and Reserve Projections**  
**Draft Copy - Subject to Revision**

**Financial Plan & Reserve Summary**  
**Rate Alternative #2**

SUMMARY OF CASH ACTIVITY, continued	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Restricted Reserves:</b>					
<b>Impact Fund (651)</b>					
Beginning Reserve Balance <sup>1</sup>	\$ 3,701,552	\$ 4,712,114	\$ 4,272,254	\$ 3,336,685	\$ 2,953,156
Plus: Interest Earnings <sup>4</sup>	24,641	11,780	21,361	16,683	22,149
Plus: Impact Fee Revenue <sup>6</sup>	1,652,888	1,306,776	935,980	935,980	883,000
Less: Annual Operating Expenditures	(14,067)	(14,380)	(14,704)	(15,037)	(15,382)
Less: Debt Service (Impact Fund Allocation of 41%)	(652,899)	(657,076)	(656,538)	(655,539)	(656,128)
Less: Use of Reserves for Capital Projects	-	(1,086,960)	(1,221,669)	(665,616)	(229,682)
<b>Ending Connection Fee Fund Balance</b>	<b>\$ 4,712,114</b>	<b>\$ 4,272,254</b>	<b>\$ 3,336,685</b>	<b>\$ 2,953,156</b>	<b>\$ 2,957,112</b>
<b>Annual Interest Earnings Rate <sup>5</sup></b>	<b>0.25%</b>	<b>0.25%</b>	<b>0.50%</b>	<b>0.50%</b>	<b>0.75%</b>
<b>Bond Project Fund</b>					
Beginning Reserve Balance	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: Loan Financing	-	-	-	-	-
Plus: Revenue Bond Proceeds	-	-	-	-	-
Less: Use of Bond & Loan Funds for Capital Projects	-	-	-	-	-
<b>Ending Bond Project Fund Balance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Target Ending Balance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Debt Reserve</b>					
Beginning Reserve Balance	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: Reserve Funding from New Debt Obligations	-	-	-	-	-
Plus: Interest Earnings	-	-	-	-	-
Less: Transfer of Surplus to Operating Reserve	-	-	-	-	-
<b>Ending Debt Reserve Balance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Target Ending Balance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

1. Total beginning cash is the sum of the projected cash balances in Funds 650, 651, 652, and 653, as of 07/01/2015;

Cash Balances - Budget Pages.xls file provided by City Staff.

2. Reserve targets are set according to existing City policy.

3. The Water System Replacement reserve target is set to 3% of net assets.

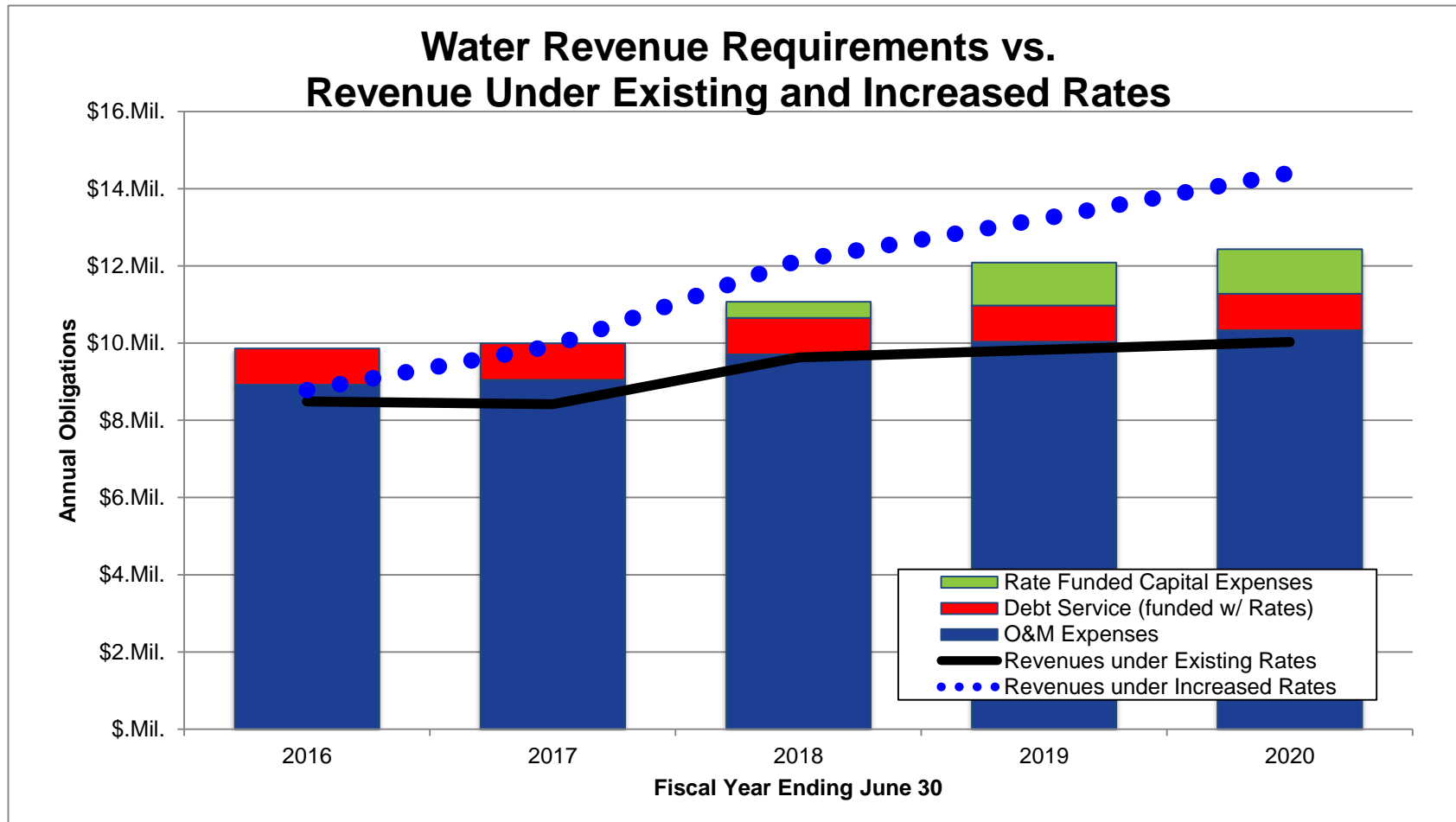
4. Interest earnings are per the City's adopted budget for FY 2015/16, and calculated herein for all future years,

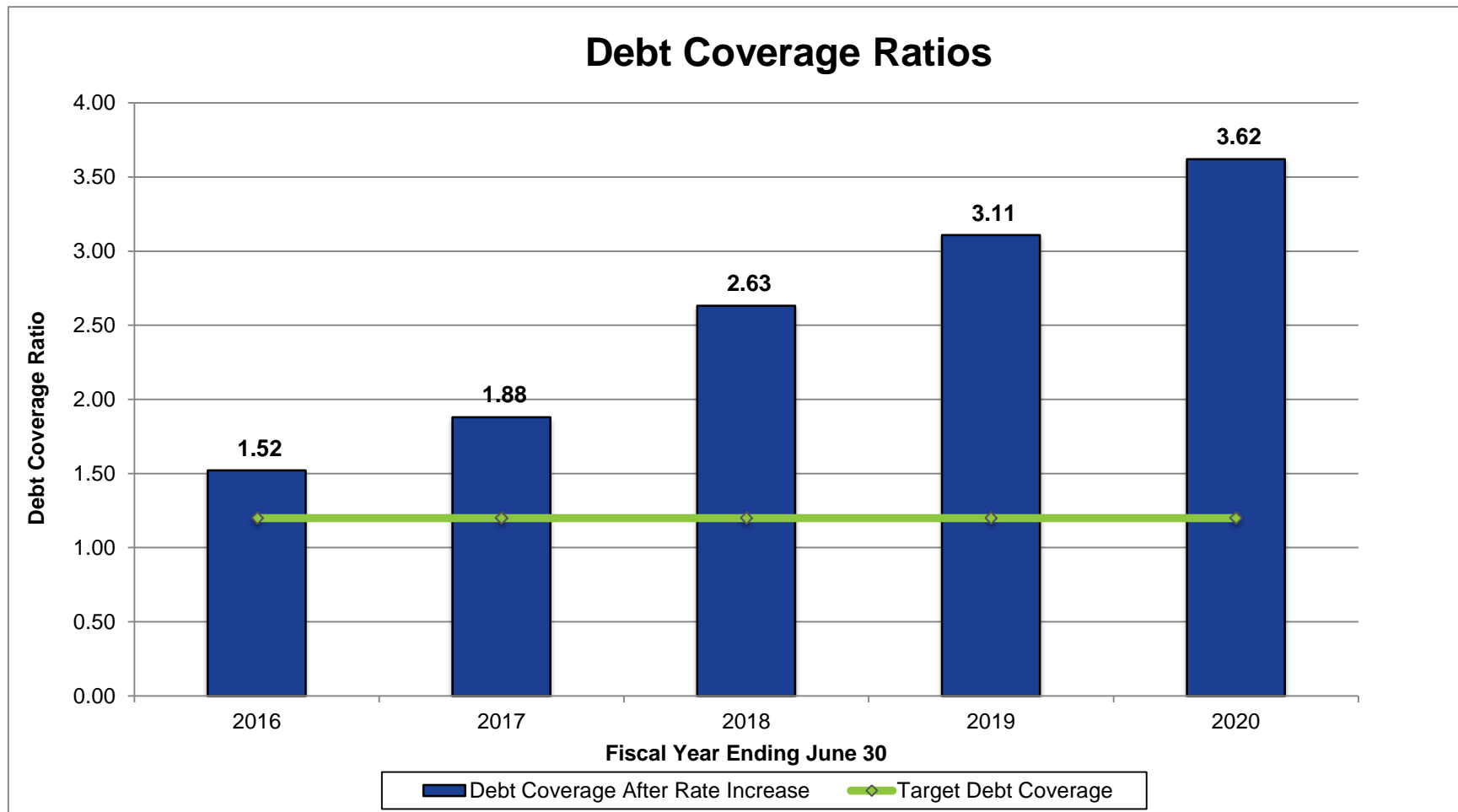
per historical interest earning rates for funds invested in LAIF as referenced on the California Treasurer's Office website.

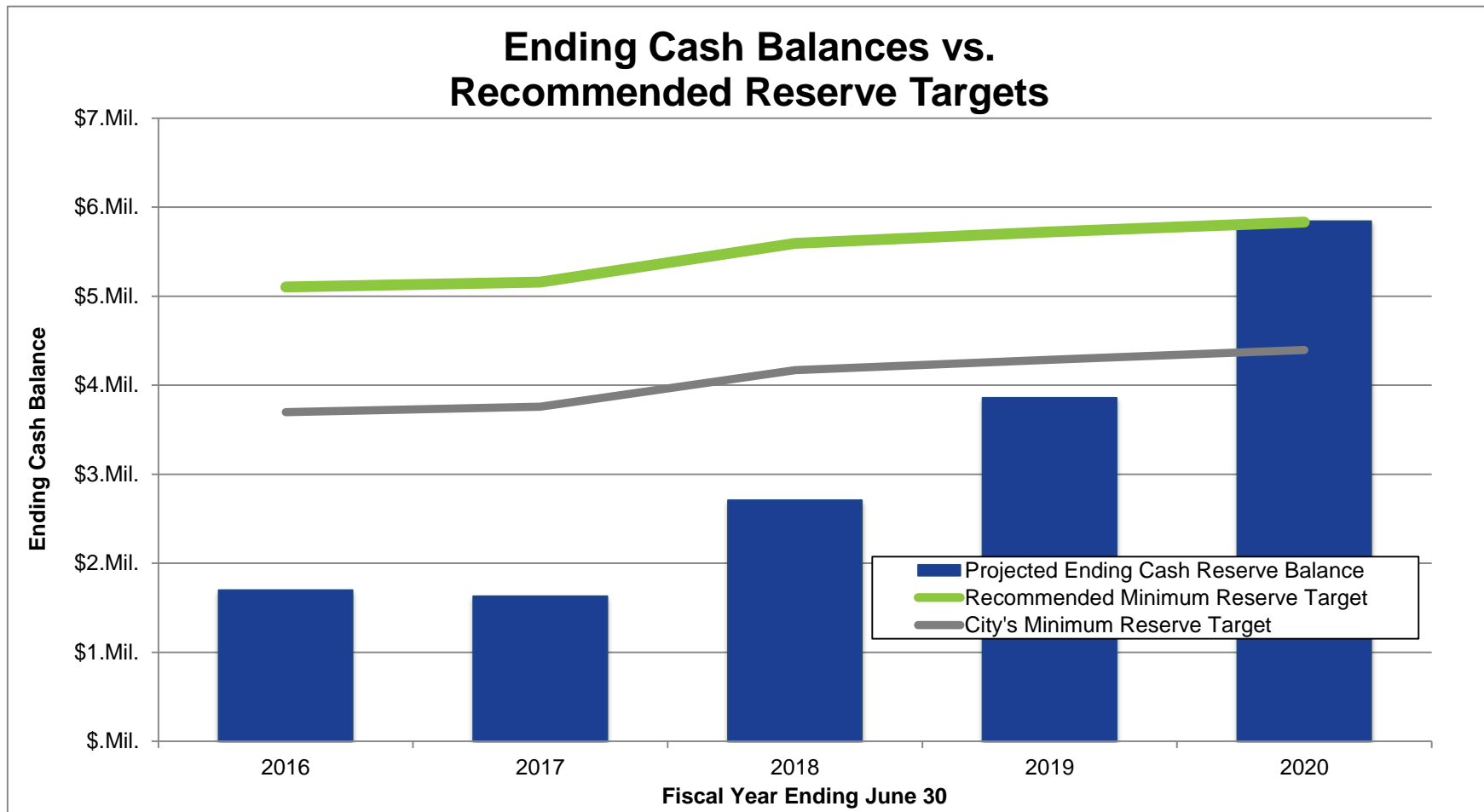
Future years earnings were conservatively estimated and phase into the historical 10 year average interest earnings rate.

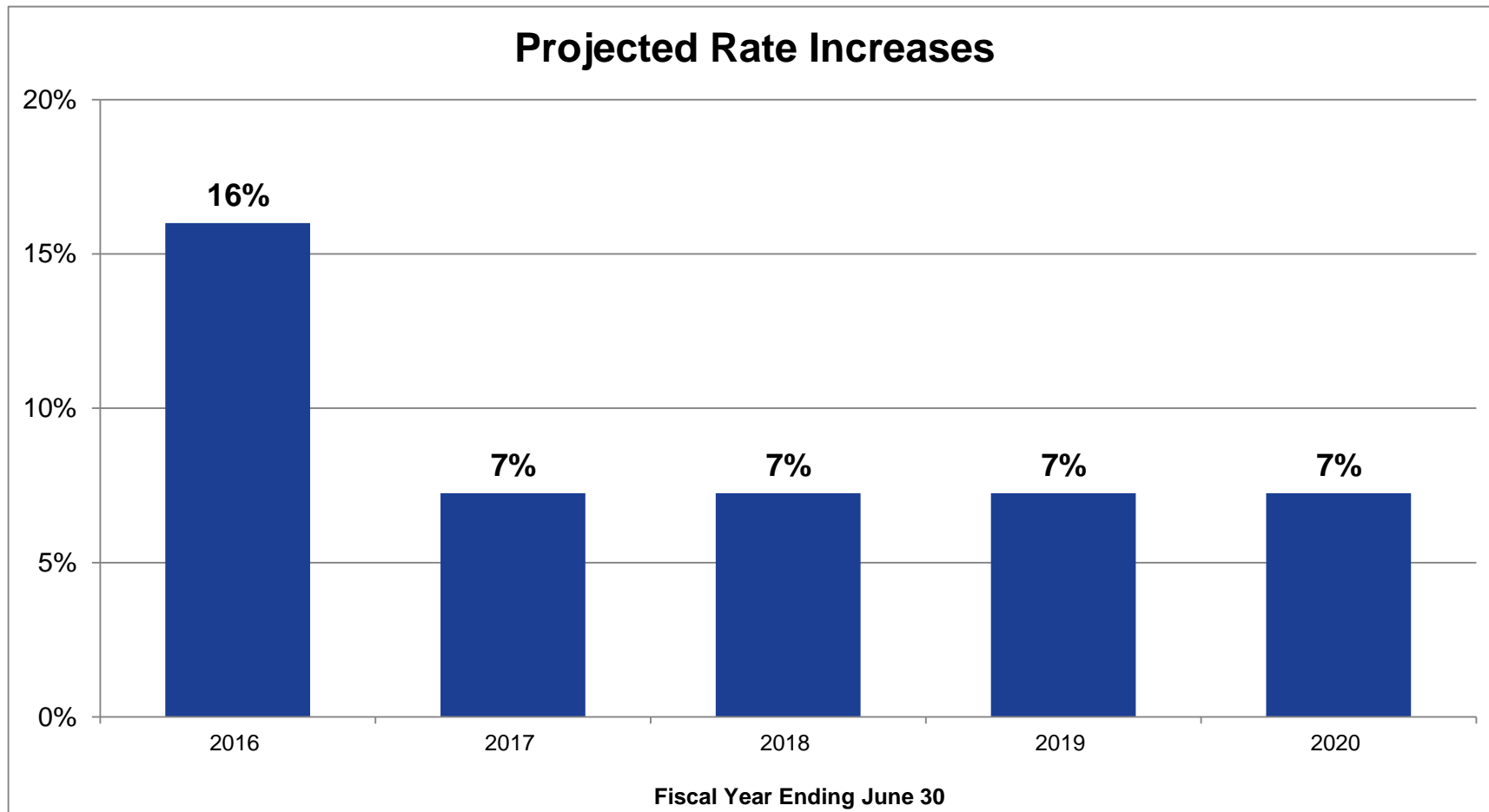
5. Days cash on hand represents the number of days cash the City has available to cover operating expenses and debt service payments.

6. Impact fee revenue projections for FY 2015/16 - 2019/20 are from the following file: Operating Budget FY 2013-14 to FY 2015-16.xls.









**CITY OF MORGAN HILL**  
**WATER RATE STUDY**  
**Operating Revenue and Expenses**  
**Draft Copy - Subject to Revision**

**EXHIBIT 1**  
**Rate Alternative #2**

**REVENUE FORECAST <sup>1</sup>**

<b>WATER OPERATIONS</b>	<b>Basis</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Water Operations Fund (650)</b>						
INTEREST INCOME <sup>2</sup>	See FP	\$ 18,090	\$ -	\$ -	\$ -	\$ -
RENT & CONCESSIONS	6	\$ 70,147	\$ 72,747	\$ 75,435	\$ 78,268	\$ 81,162
WATER SALES <sup>3</sup>	1	\$ 7,329,555	\$ 7,476,146	\$ 8,703,075	\$ 8,877,136	\$ 9,054,679
FRONT FOOTAGE/OFFSITE	6	\$ 52,500	\$ 52,500	\$ 52,500	\$ 52,500	\$ 52,500
PERCHLORATE SURCHARGE	6	\$ -	\$ -	\$ -	\$ -	\$ -
UB COLLECTIONS	6	\$ 2,060	\$ 2,122	\$ 2,185	\$ 2,251	\$ 2,319
METER INSTALL & SERVICE	1	\$ 215,325	\$ 168,300	\$ 131,175	\$ 131,175	\$ 123,750
FIRE HYDRANT CHARGE	6	\$ 50,000	\$ 51,000	\$ 52,530	\$ 54,106	\$ 55,729
OTHER REVENUE	6	\$ -	\$ -	\$ -	\$ -	\$ -
REIMBURSEMENT OF EXPENSES	6	\$ 20,600	\$ 21,218	\$ 21,855	\$ 22,510	\$ 23,185
MISC. SALES	6	\$ -	\$ -	\$ -	\$ -	\$ -
SURPLUS SALES	6	\$ -	\$ -	\$ -	\$ -	\$ -
MISC. REVENUE	6	\$ -	\$ -	\$ -	\$ -	\$ -
ANNUAL BACKFLOW INSPECTION	6	\$ -	\$ -	\$ -	\$ -	\$ -
UTILITY ACCOUNT SET-UP	1	\$ 56,650	\$ 58,350	\$ 60,100	\$ 61,903	\$ 63,760
CONSTRUCTION BACKFLOW INSPECTION	6	\$ 412	\$ 424	\$ 437	\$ 450	\$ 464
CONST.INSPECT.-BACKFLOW	6	\$ -	\$ -	\$ -	\$ -	\$ -
UTILITY BILL DELINQ CHR	1	\$ 20,600	\$ 21,218	\$ 21,855	\$ 22,510	\$ 23,185
DELINQUENT BILL CHARGE	1	\$ 114,493	\$ 119,064	\$ 120,776	\$ 121,717	\$ 124,135
UTILITY SERVICE CALL	1	\$ 59,508	\$ 63,233	\$ 65,848	\$ 72,100	\$ 72,100
CHGS-CURR/PLANS & SPECS	6	\$ -	\$ -	\$ -	\$ -	\$ -
TRANSFER FROM-640 (SEWER OPS)	6	\$ 316,409	\$ 309,212	\$ 318,533	\$ 329,350	\$ 339,935
TRANSFER FROM-653 (WATER CIP) <sup>2</sup>	See FP	\$ -	\$ -	\$ -	\$ -	\$ -
TRANSFER FROM-652 (WATER STABL) <sup>2</sup>	See FP	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Water Impact Fund (651)</b>						
INTEREST INCOME <sup>2</sup>	See FP	\$ 24,641	\$ -	\$ -	\$ -	\$ -
DEVELOPMENT IMPACT FEES (AB1600)	6	\$ 1,652,888	\$ 1,306,776	\$ 935,980	\$ 935,980	\$ 883,000
OTHER REVENUE	6	\$ -	\$ -	\$ -	\$ -	\$ -
BOND PROCEEDS	6	\$ -	\$ -	\$ -	\$ -	\$ -
CHGS-CURR/PLANS & SPECS	6	\$ -	\$ -	\$ -	\$ -	\$ -
TRANSFER FROM-653 (WATER CIP) <sup>2</sup>	See FP	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Water Rate Stabilization Fund (652)</b>						
INTEREST INCOME <sup>2</sup>	See FP	\$ 183	\$ -	\$ -	\$ -	\$ -
<b>Water System Replacement Fund (653)</b>						
INTEREST INCOME <sup>2</sup>	See FP	\$ 29,048	\$ -	\$ -	\$ -	\$ -
OTHER REVENUE	6	\$ -	\$ -	\$ -	\$ -	\$ -
BOND PROCEEDS	6	\$ -	\$ -	\$ -	\$ -	\$ -
CAPITAL CONTRIBUTIONS	6	\$ 133,000	\$ -	\$ -	\$ -	\$ -
CHGS-CURR/PLANS & SPECS	6	\$ -	\$ -	\$ -	\$ -	\$ -
TRANSFER FROM-650 (WATER OPS) <sup>2</sup>	See FP	\$ -	\$ -	\$ -	\$ -	\$ -
SPECIAL DEPOSITS	6	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TOTAL: REVENUE</b>		<b>\$10,166,108</b>	<b>\$ 9,722,309</b>	<b>\$10,562,284</b>	<b>\$10,761,956</b>	<b>\$10,899,904</b>



**REVENUE SUMMARY:**

<b>WATER OPERATIONS</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b><i>Water Operations Fund (650)</i></b>					
WATER RATE REVENUE	\$ 7,329,555	\$ 7,476,146	\$ 8,703,075	\$ 8,877,136	\$ 9,054,679
INTEREST INCOME <sup>2</sup>	\$ 18,090	\$ -	\$ -	\$ -	\$ -
OTHER REVENUE	\$ 978,704	\$ 939,388	\$ 923,229	\$ 948,840	\$ 962,224
<b><i>Water Impact Fund (651)</i></b>					
IMPACT FEE REVENUE	\$ 1,652,888	\$ 1,306,776	\$ 935,980	\$ 935,980	\$ 883,000
INTEREST INCOME <sup>2</sup>	\$ 24,641	\$ -	\$ -	\$ -	\$ -
<b><i>Water Rate Stabilization Fund (652)</i></b>					
INTEREST INCOME <sup>2</sup>	\$ 183	\$ -	\$ -	\$ -	\$ -
<b><i>Water System Replacement Fund (653)</i></b>					
SYSTEM REPLACEMENT REVENUE	\$ 133,000	\$ -	\$ -	\$ -	\$ -
INTEREST INCOME <sup>2</sup>	\$ 29,048	\$ -	\$ -	\$ -	\$ -

**CITY OF MORGAN HILL**  
**WATER RATE STUDY**  
**Operating Revenue and Expenses**  
**Draft Copy - Subject to Revision**

**EXHIBIT 1**  
**Rate Alternative #2**

**OPERATING EXPENSE FORECAST<sup>1</sup> :**

<b>WATER OPERATIONS FUND, Operations</b>	<b>Basis</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>SALARIES</b>						
SALARIES - GENERAL	3	\$ 1,558,185	\$ 1,597,346	\$ 1,636,743	\$ 1,677,124	\$ 1,718,515
SALARIES - PART-TIME TEMP	3	\$ -	\$ -	\$ -	\$ -	\$ -
EARNED LEAVE LIABILITY	3	\$ 20,512	\$ 20,512	\$ 20,512	\$ 20,512	\$ 20,512
OVERTIME - GENERAL	3	\$ 74,263	\$ 76,491	\$ 78,786	\$ 81,149	\$ 83,584
UNEMPLOYMENT INSURANCE	3	\$ -	\$ -	\$ -	\$ -	\$ -
RETIREMENT - GENERAL	3	\$ 278,043	\$ 294,583	\$ 307,577	\$ 321,874	\$ 335,832
DEFERRED COMPENSATION	3	\$ 31,164	\$ 31,947	\$ 32,735	\$ 33,542	\$ 34,370
GROUP INSURANCE	3	\$ 275,455	\$ 289,178	\$ 303,587	\$ 318,716	\$ 334,602
MEDICARE	3	\$ 23,718	\$ 24,318	\$ 24,923	\$ 25,543	\$ 26,178
INCOME PROTECTION INS	3	\$ 14,763	\$ 14,763	\$ 14,763	\$ 14,763	\$ 14,763
WORKERS COMP	3	\$ 79,751	\$ 49,817	\$ 51,056	\$ 52,326	\$ 53,628
BENEFITS	3	\$ 3,296	\$ 3,296	\$ 3,296	\$ 3,296	\$ 3,296
UNIFORM	3	\$ 9,548	\$ 9,835	\$ 10,130	\$ 10,433	\$ 10,746
<b>SUPPLIES</b>						
TAXES	6	\$ -	\$ -	\$ -	\$ -	\$ -
ELECTRIC	4	\$ 760,000	\$ 782,800	\$ 802,284	\$ 830,473	\$ 830,473
GROUNDWATER PRODUCTION <sup>4</sup>	2	\$ 2,227,267	\$ 2,358,651	\$ 2,845,753	\$ 2,981,606	\$ 3,124,609
WATER/SEWER	2	\$ 2,758	\$ 2,841	\$ 2,926	\$ 3,014	\$ 3,105
TELEPHONE	2	\$ 21,218	\$ 21,855	\$ 22,510	\$ 23,185	\$ 23,881
GASOLINE & OIL	2	\$ 50,923	\$ 52,451	\$ 54,024	\$ 55,645	\$ 57,315
CONTRACT SERVICES	2	\$ 369,563	\$ 381,485	\$ 392,930	\$ 404,717	\$ 416,859
BANK CARD SERVICE FEES	2	\$ 438	\$ 451	\$ 464	\$ 478	\$ 493
RENTALS - OUTSIDE	2	\$ 2,652	\$ 2,732	\$ 2,814	\$ 2,898	\$ 2,985
STATIONERY & OFFICE SUPPLIES	2	\$ 9,548	\$ 9,835	\$ 10,130	\$ 10,433	\$ 10,746
COMPUTER HARDWARE-NON CAPITAL	2	\$ 4,774	\$ 4,917	\$ 5,065	\$ 5,217	\$ 5,373
COMPUTER SOFTWARE-NON CAPITAL	2	\$ 13,261	\$ 13,659	\$ 14,069	\$ 14,491	\$ 14,926
OTHER SUPPLIES	2	\$ 213,200	\$ 230,926	\$ 237,854	\$ 244,989	\$ 252,339
ADVERTISING	2	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194
PHOTOCOPYING	2	\$ 106	\$ 109	\$ 113	\$ 116	\$ 119
POSTAGE & FREIGHT	2	\$ 6,545	\$ 1,741	\$ 1,794	\$ 1,847	\$ 1,903
PRINTING	2	\$ 2,122	\$ 2,185	\$ 2,251	\$ 2,319	\$ 2,388
AUTO MILEAGE	2	\$ 265	\$ 273	\$ 281	\$ 290	\$ 299
WATER/SEWER MAINTENANCE SVS	2	\$ 43,045	\$ 54,636	\$ 56,275	\$ 57,964	\$ 59,703
SMALL TOOLS	2	\$ 10,609	\$ 10,927	\$ 11,255	\$ 11,593	\$ 11,941
OTHER EXPENSE	2	\$ 38,000	\$ 39,140	\$ 40,314	\$ 41,524	\$ 42,769
TRAINING & EDUCATION	2	\$ 19,096	\$ 19,669	\$ 20,259	\$ 20,867	\$ 21,493
CONFERENCE & MEETINGS	2	\$ 3,183	\$ 3,278	\$ 3,377	\$ 3,478	\$ 3,582
MEMBERSHIP & DUES	2	\$ 15,914	\$ 16,391	\$ 16,883	\$ 17,389	\$ 17,911
SUBSCRIPTION & PUBLICATIONS	2	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239
MAINT - BLDGS/IMPROVEMENTS	2	\$ 15,914	\$ 16,391	\$ 16,883	\$ 17,389	\$ 17,911
MAINT - MACHINE/EQUIPMENT	2	\$ 10,609	\$ 10,927	\$ 11,255	\$ 11,593	\$ 11,941
MAINT - AUTO/TRUCKS	2	\$ 26,523	\$ 27,318	\$ 28,138	\$ 28,982	\$ 29,851
<b>SUB-TOTAL: WATER OPERATIONS FUND, Operations</b>		<b>\$ 6,237,504</b>	<b>\$ 6,478,986</b>	<b>\$ 7,085,357</b>	<b>\$ 7,353,167</b>	<b>\$ 7,602,372</b>

CITY OF MORGAN HILL  
WATER RATE STUDY  
Operating Revenue and Expenses  
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**EXHIBIT 1**  
**Rate Alternative #2**

OPERATING EXPENSE FORECAST, continued <sup>1</sup> :

WATER OPERATIONS FUND, Operations, continued	Basis	2016	2017	2018	2019	2020
<b>CAPITAL</b>						
MACHINERY/EQUIPMENT	2	\$ 86,700	\$ 88,434	\$ 90,203	\$ 92,007	\$ 93,847
COMPUTER EQUIPMENT	2	\$ 5,253	\$ 5,358	\$ 5,465	\$ 5,575	\$ 5,686
COMPUTER SOFTWARE	2	\$ 13,658	\$ 13,931	\$ 14,210	\$ 14,494	\$ 14,784
METERS	2	\$ 550,000	\$ 650,000	\$ 650,000	\$ 650,000	\$ 650,001
<b>INTERNAL SERVICES</b>						
GENERAL LIABILITY INSURANCE	2	\$ 75,750	\$ 83,325	\$ 91,658	\$ 100,823	\$ 110,906
BUILDING MAINT - CURRENT SERVICES	2	\$ 54,220	\$ 55,846	\$ 57,522	\$ 59,247	\$ 61,025
BUILDING MAINT - FUTURE REPLACEMENT	2	\$ 2,670	\$ 2,750	\$ 2,832	\$ 2,917	\$ 3,005
FLEET REPLACEMENT	2	\$ 233,540	\$ 59,938	\$ 59,938	\$ 59,938	\$ 59,938
INFO SYSTEM SERVICES	2	\$ 116,855	\$ 120,361	\$ 123,972	\$ 127,691	\$ 131,521
GF ADMIN	2	\$ 205,534	\$ 212,727	\$ 220,173	\$ 227,879	\$ 235,855
<b>TRANSFERS</b>						
TRANSFER OUT-010 (GENERAL FUND)	2	\$ 436,623	\$ 437,722	\$ 438,854	\$ 440,019	\$ 441,220
TRANSFER OUT-232 (ENVIRONMENTAL PROGRAMS)	2	\$ 56,931	\$ 58,758	\$ 60,632	\$ 62,542	\$ 62,542
TRANSFER OUT-207 (GENL PLAN UPDATE)	2	\$ 10,300	\$ 10,300	\$ 10,300	\$ 10,300	\$ 10,300
TRANSFER OUT - EMPLOYEE BENEFITS FUND	3	\$ 45,385	\$ 48,789	\$ 52,448	\$ 56,381	\$ 60,610
<b>SUB-TOTAL: WATER OPERATIONS FUND, Operations</b>		<b>\$ 1,893,418</b>	<b>\$ 1,848,239</b>	<b>\$ 1,878,205</b>	<b>\$ 1,909,813</b>	<b>\$ 1,941,239</b>
<b>TOTAL: WATER OPERATIONS FUND, Operations</b>		<b>\$ 8,130,922</b>	<b>\$ 8,327,225</b>	<b>\$ 8,963,562</b>	<b>\$ 9,262,981</b>	<b>\$ 9,543,611</b>

CITY OF MORGAN HILL  
WATER RATE STUDY  
Operating Revenue and Expenses  
Draft Copy - Subject to Revision

**EXHIBIT 1**  
**Rate Alternative #2**

**OPERATING EXPENSE FORECAST, continued <sup>1</sup> :**

<b>WATER OPERATIONS FUND, Utility Billing</b>	<b>Basis</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>SALARIES</b>						
SALARIES - GENERAL	3	\$ 217,289	\$ 224,669	\$ 229,421	\$ 236,043	\$ 241,944
SALARIES - PART-TIME TEMP	3	\$ -	\$ -	\$ -	\$ -	\$ -
EARNED LEAVE LIABILITY	3	\$ 4,385	\$ 4,385	\$ 4,385	\$ 4,385	\$ 4,385
OVERTIME - GENERAL	3	\$ -	\$ -	\$ -	\$ -	\$ -
UNEMPLOYMENT INSURANCE	3	\$ -	\$ -	\$ -	\$ -	\$ -
RETIREMENT - GENERAL	3	\$ 42,198	\$ 41,434	\$ 43,113	\$ 45,301	\$ 47,281
DEFERRED COMPENSATION	3	\$ 3,212	\$ 3,331	\$ 3,397	\$ 3,500	\$ 3,588
GROUP INSURANCE	3	\$ 51,825	\$ 55,129	\$ 57,878	\$ 60,764	\$ 63,794
MEDICARE	3	\$ 3,170	\$ 3,277	\$ 3,345	\$ 3,442	\$ 3,527
INCOME PROTECTION INS	3	\$ 2,345	\$ 2,345	\$ 2,345	\$ 2,345	\$ 2,345
WORKERS COMP	3	\$ 10,864	\$ 6,740	\$ 6,883	\$ 7,081	\$ 7,258
BENEFITS	3	\$ 1,302	\$ 1,302	\$ 1,302	\$ 1,302	\$ 1,302
CONTRACT LABOR	3	\$ -	\$ -	\$ -	\$ -	\$ -
<b>SUPPLIES</b>						
TELEPHONE	2	\$ 5,305	\$ 5,464	\$ 5,628	\$ 5,796	\$ 5,970
CONTRACT SERVICES	2	\$ 50,071	\$ 51,573	\$ 53,120	\$ 54,714	\$ 56,355
BANK CARD SERVICE FEES	2	\$ 59,489	\$ 61,274	\$ 63,112	\$ 65,005	\$ 66,955
STATIONERY & OFFICE SUPPLIES	2	\$ 1,273	\$ 1,311	\$ 1,351	\$ 1,391	\$ 1,433
COMPUTER HARDWARE-NON CAPITAL	2	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126
OTHER SUPPLIES	2	\$ -	\$ -	\$ -	\$ -	\$ -
ADVERTISING	2	\$ -	\$ -	\$ -	\$ -	\$ -
PHOTOCOPYING	2	\$ 115	\$ 118	\$ 122	\$ 125	\$ 129
POSTAGE & FREIGHT	2	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964	\$ 59,703
PRINTING	2	\$ 849	\$ 874	\$ 900	\$ 927	\$ 955
AUTO MILEAGE	2	\$ -	\$ -	\$ -	\$ -	\$ -
TRAINING & EDUCATION	2	\$ 743	\$ 765	\$ 788	\$ 811	\$ 836
SUBSCRIPTION & PUBLICATIONS	2	\$ -	\$ -	\$ -	\$ -	\$ -
<b>INTERNAL SERVICES</b>						
GENERAL LIABILITY INSURANCE	2	\$ 5,769	\$ 6,346	\$ 6,980	\$ 7,679	\$ 8,446
BUILDING MAINT - CURRENT SERVICES	2	\$ 6,608	\$ 6,806	\$ 7,010	\$ 7,221	\$ 7,437
BUILDING MAINT - FUTURE REPLACEMENT	2	\$ 1,096	\$ 1,129	\$ 1,163	\$ 1,198	\$ 1,234
INFO SYSTEM SERVICES	2	\$ 25,230	\$ 25,987	\$ 26,767	\$ 27,570	\$ 28,397
GF ADMIN	2	\$ 45,673	\$ 47,271	\$ 48,926	\$ 50,638	\$ 52,411
<b>TRANSFERS</b>						
TRANSFER OUT - EMPLOYEE BENEFITS FUND	3	\$ 7,039	\$ 7,567	\$ 8,135	\$ 8,745	\$ 9,401
<b>TOTAL: WATER OPERATIONS FUND, Utility Billing</b>		<b>\$ 599,894</b>	<b>\$ 614,764</b>	<b>\$ 633,407</b>	<b>\$ 655,040</b>	<b>\$ 676,212</b>

CITY OF MORGAN HILL  
WATER RATE STUDY  
Operating Revenue and Expenses  
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**EXHIBIT 1**  
Rate Alternative #2

OPERATING EXPENSE FORECAST, continued <sup>1</sup> :

WATER OPERATIONS FUND, Water Conservation	Basis	2016	2017	2018	2019	2020
<b>SALARIES</b>						
SALARIES - GENERAL	3	\$ 28,017	\$ 28,979	\$ 29,704	\$ 30,446	\$ 31,208
SALARIES - PART-TIME TEMP	3	\$ 10,640	\$ -	\$ -	\$ -	\$ -
EARNED LEAVE LIABILITY	3	\$ 1,902	\$ 1,902	\$ 1,902	\$ 1,902	\$ 1,902
UNEMPLOYMENT INSURANCE	3	\$ -	\$ -	\$ -	\$ -	\$ -
RETIREMENT - GENERAL	3	\$ 4,999	\$ 5,344	\$ 5,582	\$ 5,843	\$ 6,099
DEFERRED COMPENSATION	3	\$ 475	\$ 490	\$ 502	\$ 514	\$ 527
GROUP INSURANCE	3	\$ 2,651	\$ 2,783	\$ 2,921	\$ 3,067	\$ 3,220
MEDICARE	3	\$ 565	\$ 425	\$ 435	\$ 446	\$ 457
INCOME PROTECTION INS	3	\$ 231	\$ 231	\$ 231	\$ 231	\$ 231
WORKERS COMP	3	\$ 1,665	\$ 869	\$ 891	\$ 913	\$ 936
BENEFITS	3	\$ 327	\$ 327	\$ 327	\$ 327	\$ 327
<b>SUPPLIES</b>						
TELEPHONE	2	\$ 127	\$ 131	\$ 135	\$ 139	\$ 143
CONTRACT SERVICES	2	\$ 15,071	\$ 7,523	\$ 7,749	\$ 7,981	\$ 8,221
POSTAGE & FREIGHT	2	\$ 10,424	\$ 737	\$ 759	\$ 782	\$ 805
PRINTING	2	\$ 21,273	\$ 1,911	\$ 1,969	\$ 2,028	\$ 2,088
AUTO MILEAGE	2	\$ 712	\$ 234	\$ 241	\$ 248	\$ 255
OTHER EXPENSE	2	\$ 82,436	\$ 44,909	\$ 46,256	\$ 47,644	\$ 49,073
TRAINING & EDUCATION	2	\$ 424	\$ 437	\$ 450	\$ 464	\$ 478
CONFERENCE & MEETINGS	2	\$ 212	\$ 219	\$ 225	\$ 232	\$ 239
<b>INTERNAL SERVICES</b>						
GENERAL LIABILITY INSURANCE	2	\$ 420	\$ 462	\$ 508	\$ 559	\$ 615
GF ADMIN	2	\$ 5,154	\$ 5,335	\$ 5,522	\$ 5,715	\$ 5,915
<b>TRANSFERS</b>						
TRANSFER OUT - EMPLOYEE BENEFITS FUND	3	\$ 512	\$ 550	\$ 592	\$ 636	\$ 684
<b>TOTAL: WATER OPERATIONS FUND, Water Conservation</b>		<b>\$ 188,239</b>	<b>\$ 103,798</b>	<b>\$ 106,900</b>	<b>\$ 110,116</b>	<b>\$ 113,423</b>
<b>TOTAL: WATER OPERATIONS FUND (650) EXPENSES</b>		<b>\$ 8,919,055</b>	<b>\$ 9,045,787</b>	<b>\$ 9,703,869</b>	<b>\$10,028,137</b>	<b>\$10,333,246</b>

**OPERATING EXPENSE FORECAST, continued <sup>1</sup> :**

<b>WATER IMPACT FUND</b>	<b>Basis</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>SUPPLIES</b>						
CONTRACT SERVICES	2	\$ 69	\$ 71	\$ 73	\$ 75	\$ 78
BANK CARD SERVICE FEES	2	\$ 2,627	\$ 2,706	\$ 2,787	\$ 2,871	\$ 2,957
<b>DEBT</b>						
SERVICE FEES	2	\$ 3,565	\$ 3,672	\$ 3,782	\$ 3,895	\$ 4,012
<b>INTERNAL SERVICES</b>						
GF ADMIN	2	\$ 3,585	\$ 3,711	\$ 3,841	\$ 3,975	\$ 4,114
<b>TRANSFERS</b>						
TRANSFER OUT-207 (GENL PLAN UPDATE)	2	\$ 4,221	\$ 4,221	\$ 4,221	\$ 4,221	\$ 4,221
<b>PROJECTS</b>						
REIMBURSEMENT AGREEMENT	2	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TOTAL: WATER IMPACT FUND (651) EXPENSES</b>		<b>\$ 14,067</b>	<b>\$ 14,380</b>	<b>\$ 14,704</b>	<b>\$ 15,037</b>	<b>\$ 15,382</b>

**OPERATING EXPENSE FORECAST, continued <sup>1</sup> :**

<b>WATER RATE STABILIZATION FUND</b>	<b>Basis</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>SUPPLIES</b>						
CONTRACT SERVICES	2	\$ 53	\$ 55	\$ 56	\$ 58	\$ 60
<b>INTERNAL SERVICES</b>						
GF ADMIN	2	\$ 550	\$ 569	\$ 589	\$ 610	\$ 631
<b>TOTAL: WATER RATE STABILIZATION FUND (652) EXPENSES</b>		<b>\$ 603</b>	<b>\$ 624</b>	<b>\$ 645</b>	<b>\$ 668</b>	<b>\$ 691</b>

**OPERATING EXPENSE FORECAST, continued <sup>1</sup> :**

<b>WATER SYSTEM REPLACEMENT FUND</b>	<b>Basis</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>SUPPLIES</b>						
CONTRACT SERVICES	2	\$ 849	\$ 874	\$ 900	\$ 927	\$ 955
<b>DEBT</b>						
SERVICE FEES	2	\$ 690	\$ 710	\$ 732	\$ 754	\$ 776
<b>INTERNAL SERVICES</b>						
GF ADMIN	2	\$ 3,455	\$ 3,576	\$ 3,701	\$ 3,830	\$ 3,964
<b>TRANSFERS</b>						
TRANSFER OUT-WATER CAP.EXPAN.	6	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TOTAL: WATER SYSTEM REPLACEMENT FUND (653) EXPENSES</b>		<b>\$ 4,993</b>	<b>\$ 5,160</b>	<b>\$ 5,333</b>	<b>\$ 5,511</b>	<b>\$ 5,696</b>

<b>Grand Total: Operating Expenses</b>	<b>\$ 8,938,718</b>	<b>\$ 9,065,952</b>	<b>\$ 9,724,551</b>	<b>\$10,049,353</b>	<b>\$10,355,014</b>
<b>Grand Total: Operating Expenses (Excluding Impact Fund Expenses)</b>	<b>\$ 8,924,651</b>	<b>\$ 9,051,571</b>	<b>\$ 9,709,848</b>	<b>\$10,034,316</b>	<b>\$10,339,632</b>

CITY OF MORGAN HILL  
WATER RATE STUDY  
Operating Revenue and Expenses  
Draft Copy - Subject to Revision

**EXHIBIT 1**  
**Rate Alternative #2**

Excluded from Analysis <sup>6</sup> :						
Revenues:	Basis	2016	2017	2018	2019	2020
Water System Replacement Fund						
TRANSFER FROM-650 (WATER OPS)	6	\$ 1,114,706	\$ 1,121,838	\$ 1,120,919	\$ 1,119,213	\$ 1,120,219
<b>Total Revenue Excluded from Analysis:</b>		<b>\$ 1,114,706</b>	<b>\$ 1,121,838</b>	<b>\$ 1,120,919</b>	<b>\$ 1,119,213</b>	<b>\$ 1,120,219</b>
Expenses:	Basis	2016	2017	2018	2019	2020
Water Operations Fund						
Operations						
TRANSFERS						
TRANSFER OUT-653 (WATER REPLACE)	6	\$ 1,114,706	\$ 1,121,838	\$ 1,120,919	\$ 1,119,213	\$ 1,120,219
DEBT						
PRINCIPAL	6	\$ -	\$ -	\$ -	\$ -	\$ -
INTEREST	6	\$ -	\$ -	\$ -	\$ -	\$ -
LEASE PAYMENTS	6	\$ -	\$ -	\$ -	\$ -	\$ -
SERVICE FEES	6	\$ -	\$ -	\$ -	\$ -	\$ -
Utility Billing						
TRANSFERS						
TRANSFER OUT-BOND/DEBT	6	\$ 3,659	\$ 3,659	\$ 3,659	\$ 3,659	\$ 3,659
Water Impact Fund						
DEBT						
PRINCIPAL	6	\$ 238,500	\$ 250,500	\$ 259,500	\$ 268,500	\$ 279,000
INTEREST	6	\$ 239,231	\$ 230,288	\$ 220,894	\$ 211,163	\$ 201,094
ISSUANCE COST	6	\$ -	\$ -	\$ -	\$ -	\$ -
PROJECTS						
CONSTRUCTION <sup>5</sup>	2	\$ 3,834,000	\$ 1,050,000	\$ 1,140,000	\$ 600,000	\$ 200,000
Water Rate Stabilization Fund						
TRANSFERS						
TRANSFER OUT-650 (WATER OPS)	6	\$ -	\$ -	\$ -	\$ -	\$ -
Water System Replacement Fund						
DEBT						
PRINCIPAL	6	\$ 556,500	\$ 584,500	\$ 605,500	\$ 626,500	\$ 651,000
INTEREST	6	\$ 558,206	\$ 537,338	\$ 515,419	\$ 492,713	\$ 469,219
ISSUANCE COST	6	\$ -	\$ -	\$ -	\$ -	\$ -
TRANSFERS						
TRANSFER OUT-650 (WATER OPS)	6	\$ -	\$ -	\$ -	\$ -	\$ -
PROJECTS						
CONSTRUCTION <sup>5</sup>	6	\$ 5,148,000	\$ -	\$ -	\$ -	\$ -
<b>Total Expenses Excluded from Analysis:</b>		<b>\$11,692,803</b>	<b>\$ 3,778,122</b>	<b>\$ 3,865,891</b>	<b>\$ 3,321,747</b>	<b>\$ 2,924,191</b>

**CITY OF MORGAN HILL**  
**WATER RATE STUDY**  
**Operating Revenue and Expenses**  
**Draft Copy - Subject to Revision**

**EXHIBIT 1**  
**Rate Alternative #2**

**FORECASTING ASSUMPTIONS:**

INFLATION FACTORS	2016	2017	2018	2019	2020
1 Customer Growth <sup>7</sup>	--	2.00%	16.41%	2.00%	2.00%
2 General Cost Inflation	--	3.00%	3.00%	3.00%	3.00%
3 Labor Cost Inflation <sup>8</sup>	--	5.00%	5.00%	5.00%	5.00%
4 Energy Cost Inflation	--	4.00%	4.00%	4.00%	4.00%
5 Other Cost Inflation	--	3.00%	3.00%	3.00%	3.00%
6 No Escalation	--	0.00%	0.00%	0.00%	0.00%

1. Data source for the FY 2015/16 adopted budget is from the following file: Operating Budget FY 2013-14 to FY 2015-16.xls.  
Budget data for FY 2016/17 - FY 2019/20 is forecasted by the City. Inflationary factors are applied to project revenue and expenses in all future years.
2. Interest earnings beyond 2015/16 and internal transfers are calculated in the Financial Plan and Reserve Fund Summary of this model.
3. Per City staff, water sales includes the following conservation rate effective FY 2015/16 and beyond 30%, 30%, 20%, 20%, 20%, with 2% annual growth.  
NBS is using a revised FY 2015/16 - 2019/20 rate revenue projection and inflating by customer growth rate in all future years.  
File: Revenues Projection Without Rate Increases.xlsx, provided by City Staff 8/12/2015.
4. Initial Groundwater Production costs were provided by City Staff on 8/12/2015, file: Revenues Projection Without Rate Increase.xlsx.  
Revised projection is inflated no expected change in consumption (assumes 30% conservation holds).
5. Construction expenses are excluded from this analysis and are handled in Exhibit 2 (CIP).
6. The following revenues and expenses have been excluded from this analysis since they do not represent actual cash expenses,  
or are handled in the model elsewhere (i.e. Debt is in Exhibit 3)
7. Customer growth is calculated based on source: Projected Growth Rates.pdf. FY 2020/21 and beyond is set to 1.5% growth annually.
8. Labor cost inflation is set to 5%, per City Staff.



**CAPITAL FUNDING SUMMARY**

CAPITAL FUNDING FORECAST	Budget		Projected			
Funding Sources:	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	
Use of Impact Fee Reserves	-	1,086,960	1,221,669	665,616	229,682	
Use of New SRF Loan Financing	-	-	-	-	-	
Use of New Revenue Bond Proceeds	-	-	-	-	-	
Use of 2014 Revenue Bond Proceeds <sup>1</sup>	8,982,000	-	652,000	-	-	
Use of Capital Rehabilitation & Replacement Reserve	-	-	-	-	-	
Rate Revenue	-	-	419,639	1,109,361	1,148,410	
Total Sources of Capital Funds	\$ 8,982,000	\$ 1,086,960	\$ 2,293,308	\$ 1,774,977	\$ 1,378,092	
Uses of Capital Funds:						
Total Project Costs	\$ 8,982,000	\$ 1,086,960	\$ 2,293,308	\$ 1,774,977	\$ 1,378,092	
Capital Funding Surplus (Deficiency)	\$ -	\$ -	\$ -	\$ -	\$ -	

**CAPITAL IMPROVEMENT PROGRAM**

Capital Improvement Program Costs (in Current-Year Dollars):

<b>Capital Improvement Program Projects <sup>3</sup></b>		<b>Fund</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
601000 New Well / Property Construction		651	\$ 1,963,000	\$ -	\$ 1,140,000	\$ 400,000	\$ -
602000 New Water Reservoirs (new users)		651	\$ 986,000	\$ -	\$ -	\$ -	\$ -
602000 New Water Reservoirs (new users)		653	\$ 1,300,000	\$ -	\$ -	\$ -	\$ -
603000 New Water Mains		651	\$ 474,000	\$ 1,050,000	\$ -	\$ 200,000	\$ 200,000
603000 New Water Mains		653	\$ 949,000	\$ -	\$ -	\$ -	\$ -
607000 Booster Pump Rehabilitation		651	\$ 261,000	\$ -	\$ -	\$ -	\$ -
607000 Booster Pump Rehabilitation		653	\$ 1,133,000	\$ -	\$ -	\$ -	\$ -
608000 Rehabilitate Water Wells		653	\$ 213,000	\$ -	\$ -	\$ -	\$ -
610000 Water Main Replacement		653	\$ 472,000	\$ -	\$ -	\$ -	\$ -
610000 Water Main Replacement		651	\$ 108,000	\$ -	\$ -	\$ -	\$ -
620007 Re-coat Water Reservoir/Tanks		653	\$ 373,000	\$ -	\$ -	\$ -	\$ -
620007 Re-coat Water Reservoir/Tanks		651	\$ 42,000	\$ -	\$ -	\$ -	\$ -
512093 Underground Monterey Utilities		653	\$ 125,000	\$ -	\$ -	\$ -	\$ -
562012 DeWitt Avenue "S" Curve Realignment		653	\$ 483,000	\$ -	\$ -	\$ -	\$ -
623014 Recycled Water MP Supplemental Study		653	\$ 100,000	\$ -	\$ -	\$ -	\$ -
Estimated Future Projects <sup>4</sup>		653	\$ -	\$ -	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
<b>Total: Capital Improvement Program Costs (Current-Year Dollars)</b>			<b>\$ 8,982,000</b>	<b>\$ 1,050,000</b>	<b>\$ 2,140,000</b>	<b>\$ 1,600,000</b>	<b>\$ 1,200,000</b>
<b>Total: CIP Costs (Current Year) Paid with Impact Fee Fund</b>		651	<b>\$ 3,834,000</b>	<b>\$ 1,050,000</b>	<b>\$ 1,140,000</b>	<b>\$ 600,000</b>	<b>\$ 200,000</b>
<b>Total: CIP Costs (Current Year) Paid with Replacement Fund</b>		653	<b>\$ 5,148,000</b>	<b>\$ -</b>	<b>\$ 1,000,000</b>	<b>\$ 1,000,000</b>	<b>\$ 1,000,000</b>

**CITY OF MORGAN HILL**  
**WATER RATE STUDY**  
**Capital Improvement Plan Expenditures**  
**Draft Copy - Subject to Revision**

**EXHIBIT 2**  
**Rate Alternative #2**

**Capital Improvement Program Costs (in Future-Year Dollars) <sup>5</sup>:**

<b>Capital Improvement Program Projects <sup>3</sup></b>		<b>Fund</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
601000	New Well / Property Construction	651	\$ 1,963,000	\$ -	\$ 1,221,669	\$ 443,744	\$ -
602000	New Water Reservoirs (new users)	651	\$ 986,000	\$ -	\$ -	\$ -	\$ -
602000	New Water Reservoirs (new users)	653	\$ 1,300,000	\$ -	\$ -	\$ -	\$ -
603000	New Water Mains	651	\$ 474,000	\$ 1,086,960	\$ -	\$ 221,872	\$ 229,682
603000	New Water Mains	653	\$ 949,000	\$ -	\$ -	\$ -	\$ -
607000	Booster Pump Rehabilitation	651	\$ 261,000	\$ -	\$ -	\$ -	\$ -
607000	Booster Pump Rehabilitation	653	\$ 1,133,000	\$ -	\$ -	\$ -	\$ -
608000	Rehabilitate Water Wells	653	\$ 213,000	\$ -	\$ -	\$ -	\$ -
610000	Water Main Replacement	653	\$ 472,000	\$ -	\$ -	\$ -	\$ -
610000	Water Main Replacement	651	\$ 108,000	\$ -	\$ -	\$ -	\$ -
620007	Re-coat Water Reservoir/Tanks	653	\$ 373,000	\$ -	\$ -	\$ -	\$ -
620007	Re-coat Water Reservoir/Tanks	651	\$ 42,000	\$ -	\$ -	\$ -	\$ -
512093	Underground Monterey Utilities	653	\$ 125,000	\$ -	\$ -	\$ -	\$ -
562012	DeWitt Avenue "S" Curve Realignment	653	\$ 483,000	\$ -	\$ -	\$ -	\$ -
623014	Recycled Water MP Supplemental Study	653	\$ 100,000	\$ -	\$ -	\$ -	\$ -
--	Estimated Future Projects <sup>4</sup>	653	\$ -	\$ -	\$ 1,071,639	\$ 1,109,361	\$ 1,148,410
<b>Total: Capital Improvement Program Costs (Future-Year Dollars)</b>			<b>\$ 8,982,000</b>	<b>\$ 1,086,960</b>	<b>\$ 2,293,308</b>	<b>\$ 1,774,977</b>	<b>\$ 1,378,092</b>

<b>Total: CIP Costs (Current Year) Paid with Impact Fee Fund 651</b>	651	<b>\$ 3,834,000</b>	<b>\$ 1,086,960</b>	<b>\$ 1,221,669</b>	<b>\$ 665,616</b>	<b>\$ 229,682</b>
<b>Total: CIP Costs (Current Year) Paid with Replacement Fund 653</b>	653	<b>\$ 5,148,000</b>	<b>\$ -</b>	<b>\$ 1,071,639</b>	<b>\$ 1,109,361</b>	<b>\$ 1,148,410</b>

**FORECASTING ASSUMPTIONS:**

<b>Economic Variables</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Annual Construction Cost Inflation, Per Engineering News Record <sup>6</sup>	0.00%	3.52%	3.52%	3.52%	3.52%
Cumulative Construction Cost Multiplier from 2016	1.00	1.04	1.07	1.11	1.15

1. Use of 2014 Revenue Bond Proceeds is identified by project in the CIP budget provided by City staff; file: CIP 10-Year Water and Sewer.xlsx.  
It is assumed those proceeds not spent in 2015/16 are available in 2017/18 for capital projects.
2. The City has Bond funding that will be used for projects listed in FY 2015/16; therefore this years expenditures are not reduced by the listed percentage.
3. Capital Improvement Program projects were provided by City staff via email on 10/12/2015.
4. Estimated future expenditures is \$1 mil./year in 2017/18 - 2019/20, per email from City Staff 10/12/2015. In 2025/26 and beyond, this is the average annual expenditure of all replacement (or rate) funded capital projects for FY 2015/16 through 2024/25.
5. Project costs are inflated by 3.62% per year, Engineering News Record estimates of construction cost inflation.
6. For reference purposes, the annual Construction Cost Inflation percentage is the 10 year average change in the Construction Cost Index for January 2005 to January 2015. Source: Engineering News Record website (<http://enr.construction.com>).

EXISTING DEBT OBLIGATIONS	Budget	Projected			
Annual Repayment Schedules:	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>2014 Water Refunding &amp; CIP Revenue Bonds, \$21,975,000</b> <sup>1,2</sup>					
Principal Payment	\$ 795,000	\$ 835,000	\$ 865,000	\$ 895,000	\$ 930,000
Interest Payment	797,438	767,625	736,313	703,875	670,313
<b>Subtotal: Annual Debt Service</b>	<b>\$ 1,592,438</b>	<b>\$ 1,602,625</b>	<b>\$ 1,601,313</b>	<b>\$ 1,598,875</b>	<b>\$ 1,600,313</b>
Coverage Requirement(% above annual payment) <sup>2</sup>	120%	120%	120%	120%	120%
Reserve Requirement <sup>3</sup>	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Grand Total: Existing Annual Debt Service</b>	<b>\$ 1,592,438</b>	<b>\$ 1,602,625</b>	<b>\$ 1,601,313</b>	<b>\$ 1,598,875</b>	<b>\$ 1,600,313</b>
<b>Grand Total: Existing Debt Reserve Target</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Allocation of Debt Service Payments to Funding Sources<sup>4</sup></b>					
<b>Fund 651 - Impact Fund (41%)</b>	<b>\$ 652,899</b>	<b>\$ 657,076</b>	<b>\$ 656,538</b>	<b>\$ 655,539</b>	<b>\$ 656,128</b>
<b>Fund 653 - Water System Replacement Fund (59%)</b>	<b>\$ 939,538</b>	<b>\$ 945,549</b>	<b>\$ 944,774</b>	<b>\$ 943,336</b>	<b>\$ 944,184</b>

1. The 2014 Water Revenue Bonds were issued to finance 2014 Projects, refinance 1999 Projects and refund the Series 1999 COPs, refinance 2004 Projects and refund the Series 2004 Bonds, & to pay certain costs of issuance (Bond Purchase Agreement, pg. 2).
2. Per the Installment Sales Agreement for the 2014 Revenue Bonds, the City is required to maintain a debt coverage ratio of 1.20 of the maximum annual debt service for these bond issues and all other parity debt. See page 14 of the Installment Sales Agreement (page 74 of the file: 6a. Bond Document - Morgan Hill Water Series 2014.pdf).
3. There is no reserve requirement for this bond issue.
4. Per Staff's direction in an email on 10/7/2015, the debt service payment on the 2014 Water Revenue Bonds is split as follows:  
41% to the Water Impact Fund (651) and 59% to the Water System Replacement Fund (653).

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2015/16	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
<b>OPERATING EXPENSES</b>											
<b>WATER OPERATIONS FUND, Operations</b>											
<b>SALARIES</b>											
SALARIES - GENERAL	\$ 1,558,185	\$ 467,456	\$ 749,049	\$ 77,909	\$ 28,182	\$ 235,589	30%	48%	5%	2%	15%
SALARIES - PART-TIME TEMP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	30%	48%	5%	2%	15%
EARNED LEAVE LIABILITY	\$ 20,512	\$ 6,154	\$ 9,861	\$ 1,026	\$ 371	\$ 3,101	30%	48%	5%	2%	15%
OVERTIME - GENERAL	\$ 74,263	\$ 22,279	\$ 35,700	\$ 3,713	\$ 1,343	\$ 11,228	30%	48%	5%	2%	15%
UNEMPLOYMENT INSURANCE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	30%	48%	5%	2%	15%
RETIREMENT - GENERAL	\$ 278,043	\$ 83,413	\$ 133,661	\$ 13,902	\$ 5,029	\$ 42,039	30%	48%	5%	2%	15%
DEFERRED COMPENSATION	\$ 31,164	\$ 9,349	\$ 14,981	\$ 1,558	\$ 564	\$ 4,712	30%	48%	5%	2%	15%
GROUP INSURANCE	\$ 275,455	\$ 82,637	\$ 132,416	\$ 13,773	\$ 4,982	\$ 41,647	30%	48%	5%	2%	15%
MEDICARE	\$ 23,718	\$ 7,115	\$ 11,402	\$ 1,186	\$ 429	\$ 3,586	30%	48%	5%	2%	15%
INCOME PROTECTION INS	\$ 14,763	\$ 4,429	\$ 7,097	\$ 738	\$ 267	\$ 2,232	30%	48%	5%	2%	15%
WORKERS COMP	\$ 79,751	\$ 23,925	\$ 38,338	\$ 3,988	\$ 1,442	\$ 12,058	30%	48%	5%	2%	15%
BENEFITS	\$ 3,296	\$ 989	\$ 1,584	\$ 165	\$ 60	\$ 498	30%	48%	5%	2%	15%
UNIFORM	\$ 9,548	\$ 2,864	\$ 4,590	\$ 477	\$ 173	\$ 1,444	30%	48%	5%	2%	15%
<b>SUPPLIES</b>											
TAXES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%
ELECTRIC	\$ 760,000	\$ 532,000	\$ 0	\$ -	\$ -	\$ 228,000	70%	0%	0%	0%	30%
GROUNDWATER PRODUCTION4	\$ 2,227,267	\$ 556,817	\$ 1,670,450	\$ -	\$ -	\$ -	25%	75%	0%	0%	0%
WATER/SEWER	\$ 2,758	\$ 828	\$ 1,743	\$ 138	\$ 50	\$ -	30%	63%	5%	2%	0%
TELEPHONE	\$ 21,218	\$ 6,365	\$ 13,408	\$ 1,061	\$ 384	\$ -	30%	63%	5%	2%	0%
GASOLINE & OIL	\$ 50,923	\$ 15,277	\$ 24,480	\$ 2,546	\$ 921	\$ 7,699	30%	48%	5%	2%	15%
CONTRACT SERVICES	\$ 369,563	\$ 110,869	\$ 177,656	\$ 18,478	\$ 6,684	\$ 55,876	30%	48%	5%	2%	15%
BANK CARD SERVICE FEES	\$ 438	\$ -	\$ -	\$ 438	\$ -	\$ -	0%	0%	100%	0%	0%
RENTALS - OUTSIDE	\$ 2,652	\$ 796	\$ 1,275	\$ 133	\$ 48	\$ 401	30%	48%	5%	2%	15%
STATIONERY & OFFICE SUPPLIES	\$ 9,548	\$ 2,864	\$ 6,034	\$ 477	\$ 173	\$ -	30%	63%	5%	2%	0%
COMPUTER HARDWARE-NON CAPITAL	\$ 4,774	\$ 1,432	\$ 3,017	\$ 239	\$ 86	\$ -	30%	63%	5%	2%	0%
COMPUTER SOFTWARE-NON CAPITAL	\$ 13,261	\$ 3,978	\$ 8,380	\$ 663	\$ 240	\$ -	30%	63%	5%	2%	0%
OTHER SUPPLIES	\$ 213,200	\$ 63,960	\$ 102,489	\$ 10,660	\$ 3,856	\$ 32,235	30%	48%	5%	2%	15%
ADVERTISING	\$ 1,061	\$ 318	\$ 670	\$ 53	\$ 19	\$ -	30%	63%	5%	2%	0%
PHOTOCOPYING	\$ 106	\$ 32	\$ 67	\$ 5	\$ 2	\$ -	30%	63%	5%	2%	0%
POSTAGE & FREIGHT	\$ 6,545	\$ -	\$ -	\$ 6,427	\$ 118	\$ -	0%	0%	98%	2%	0%
PRINTING	\$ 2,122	\$ -	\$ -	\$ 2,083	\$ 38	\$ -	0%	0%	98%	2%	0%
AUTO MILEAGE	\$ 265	\$ 80	\$ 127	\$ 13	\$ 5	\$ 40	30%	48%	5%	2%	15%
WATER/SEWER MAINTENANCE SVS	\$ 43,045	\$ 12,914	\$ 20,693	\$ 2,152	\$ 779	\$ 6,508	30%	48%	5%	2%	15%
SMALL TOOLS	\$ 10,609	\$ 3,183	\$ 5,100	\$ 530	\$ 192	\$ 1,604	30%	48%	5%	2%	15%
OTHER EXPENSE	\$ 38,000	\$ 11,400	\$ 18,267	\$ 1,900	\$ 687	\$ 5,745	30%	48%	5%	2%	15%
TRAINING & EDUCATION	\$ 19,096	\$ 5,729	\$ 9,180	\$ 955	\$ 345	\$ 2,887	30%	48%	5%	2%	15%
CONFERENCE & MEETINGS	\$ 3,183	\$ 955	\$ 2,011	\$ 159	\$ 58	\$ -	30%	63%	5%	2%	0%
MEMBERSHIP & DUES	\$ 15,914	\$ 4,774	\$ 7,650	\$ 796	\$ 288	\$ 2,406	30%	48%	5%	2%	15%
SUBSCRIPTION & PUBLICATIONS	\$ 212	\$ 64	\$ 102	\$ 11	\$ 4	\$ 32	30%	48%	5%	2%	15%
MAINT - BLDGS/IMPROVEMENTS	\$ 15,914	\$ 4,774	\$ 7,650	\$ 796	\$ 288	\$ 2,406	30%	48%	5%	2%	15%
MAINT - MACHINE/EQUIPMENT	\$ 10,609	\$ 3,183	\$ 5,100	\$ 530	\$ 192	\$ 1,604	30%	48%	5%	2%	15%
MAINT - AUTO/TRUCKS	\$ 26,523	\$ 7,957	\$ 12,750	\$ 1,326	\$ 480	\$ 4,010	30%	48%	5%	2%	15%
<b>SUB-TOTAL: WATER OPERATIONS FUND, Operations</b>	<b>\$ 6,237,504</b>	<b>\$ 2,061,156</b>	<b>\$ 3,236,978</b>	<b>\$ 171,004</b>	<b>\$ 58,777</b>	<b>\$ 709,588</b>	<b>33%</b>	<b>52%</b>	<b>3%</b>	<b>1%</b>	<b>11%</b>

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2015/16	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
<b>OPERATING EXPENSES</b>											
<b>WATER OPERATIONS FUND, Operations, continued</b>											
<b>CAPITAL</b>											
MACHINERY/EQUIPMENT	\$ 86,700	\$ -	\$ 86,700	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%
COMPUTER EQUIPMENT	\$ 5,253	\$ -	\$ 5,253	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%
COMPUTER SOFTWARE	\$ 13,658	\$ -	\$ 13,658	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%
METERS	\$ 550,000	\$ 165,000	\$ 291,839	\$ 82,500	\$ 10,661	\$ -	30%	53%	15%	2%	0%
<b>INTERNALSERVICES</b>											
GENERAL LIABILITY INSURANCE	\$ 75,750	\$ 22,725	\$ 46,497	\$ 3,788	\$ 1,370	\$ 1,370	30%	61%	5%	2%	2%
BUILDING MAINT - CURRENT SERVICES	\$ 54,220	\$ 16,266	\$ 33,281	\$ 2,711	\$ 981	\$ 981	30%	61%	5%	2%	2%
BUILDING MAINT - FUTURE REPLACEMENT	\$ 2,670	\$ 801	\$ 1,639	\$ 133	\$ 48	\$ 48	30%	61%	5%	2%	2%
FLEET REPLACEMENT	\$ 233,540	\$ 70,062	\$ 143,353	\$ 11,677	\$ 4,224	\$ 4,224	30%	61%	5%	2%	2%
INFO SYSTEM SERVICES	\$ 116,855	\$ -	\$ 89,257	\$ 23,371	\$ 2,113	\$ 2,113	0%	76%	20%	2%	2%
GF ADMIN	\$ 205,534	\$ 61,660	\$ 126,162	\$ 10,277	\$ 3,717	\$ 3,717	30%	61%	5%	2%	2%
<b>TRANSFERS</b>											
TRANSFER OUT-010 (GENERAL FUND)	\$ 436,623	\$ -	\$ 420,830	\$ -	\$ 7,897	\$ 7,897	0%	96%	0%	2%	2%
TRANSFER OUT-232 (ENVIRONMENTAL PROGRAMS)	\$ 56,931	\$ -	\$ 54,872	\$ -	\$ 1,030	\$ 1,030	0%	96%	0%	2%	2%
TRANSFER OUT-207 (GENL PLAN UPDATE)	\$ 10,300	\$ -	\$ 9,927	\$ -	\$ 186	\$ 186	0%	96%	0%	2%	2%
TRANSFER OUT - EMPLOYEE BENEFITS FUND	\$ 45,385	\$ -	\$ 43,743	\$ -	\$ 821	\$ 821	0%	96%	0%	2%	2%
<b>SUB-TOTAL: WATER OPERATIONS FUND, Operations</b>	<b>\$ 1,893,418</b>	<b>\$ 336,514</b>	<b>\$ 1,367,012</b>	<b>\$ 134,457</b>	<b>\$ 33,049</b>	<b>\$ 22,387</b>	<b>18%</b>	<b>72%</b>	<b>7%</b>	<b>2%</b>	<b>1%</b>

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2015/16	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
<b>OPERATING EXPENSES, continued</b>											
<b>WATER OPERATIONS FUND, Utility Billing</b>											
<b>SALARIES</b>											
SALARIES - GENERAL	\$ 217,289	\$ -	\$ -	\$ 217,289	\$ -	\$ -	0%	0%	100%	0%	0%
SALARIES - PART-TIME TEMP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
EARNED LEAVE LIABILITY	\$ 4,385	\$ -	\$ -	\$ 4,385	\$ -	\$ -	0%	0%	100%	0%	0%
OVERTIME - GENERAL	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
UNEMPLOYMENT INSURANCE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
RETIREMENT - GENERAL	\$ 42,198	\$ -	\$ -	\$ 42,198	\$ -	\$ -	0%	0%	100%	0%	0%
DEFERRED COMPENSATION	\$ 3,212	\$ -	\$ -	\$ 3,212	\$ -	\$ -	0%	0%	100%	0%	0%
GROUP INSURANCE	\$ 51,825	\$ -	\$ -	\$ 51,825	\$ -	\$ -	0%	0%	100%	0%	0%
MEDICARE	\$ 3,170	\$ -	\$ -	\$ 3,170	\$ -	\$ -	0%	0%	100%	0%	0%
INCOME PROTECTION INS	\$ 2,345	\$ -	\$ -	\$ 2,345	\$ -	\$ -	0%	0%	100%	0%	0%
WORKERS COMP	\$ 10,864	\$ -	\$ -	\$ 10,864	\$ -	\$ -	0%	0%	100%	0%	0%
BENEFITS	\$ 1,302	\$ -	\$ -	\$ 1,302	\$ -	\$ -	0%	0%	100%	0%	0%
CONTRACT LABOR	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
<b>SUPPLIES</b>											
TELEPHONE	\$ 5,305	\$ -	\$ -	\$ 5,305	\$ -	\$ -	0%	0%	100%	0%	0%
CONTRACT SERVICES	\$ 50,071	\$ -	\$ -	\$ 50,071	\$ -	\$ -	0%	0%	100%	0%	0%
BANK CARD SERVICE FEES	\$ 59,489	\$ -	\$ -	\$ 59,489	\$ -	\$ -	0%	0%	100%	0%	0%
STATIONERY & OFFICE SUPPLIES	\$ 1,273	\$ -	\$ -	\$ 1,273	\$ -	\$ -	0%	0%	100%	0%	0%
COMPUTER HARDWARE-NON CAPITAL	\$ 1,000	\$ -	\$ -	\$ 1,000	\$ -	\$ -	0%	0%	100%	0%	0%
OTHER SUPPLIES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
ADVERTISING	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
PHOTOCOPYING	\$ 115	\$ -	\$ -	\$ 115	\$ -	\$ -	0%	0%	100%	0%	0%
POSTAGE & FREIGHT	\$ 53,045	\$ -	\$ -	\$ 53,045	\$ -	\$ -	0%	0%	100%	0%	0%
PRINTING	\$ 849	\$ -	\$ -	\$ 849	\$ -	\$ -	0%	0%	100%	0%	0%
AUTO MILEAGE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
TRAINING & EDUCATION	\$ 743	\$ -	\$ -	\$ 743	\$ -	\$ -	0%	0%	100%	0%	0%
SUBSCRIPTION & PUBLICATIONS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	100%	0%	0%
<b>INTERNAL SERVICES</b>											
GENERAL LIABILITY INSURANCE	\$ 5,769	\$ -	\$ -	\$ 5,769	\$ -	\$ -	0%	0%	100%	0%	0%
BUILDING MAINT - CURRENT SERVICES	\$ 6,608	\$ -	\$ -	\$ 6,608	\$ -	\$ -	0%	0%	100%	0%	0%
BUILDING MAINT - FUTURE REPLACEMENT	\$ 1,096	\$ -	\$ -	\$ 1,096	\$ -	\$ -	0%	0%	100%	0%	0%
INFO SYSTEM SERVICES	\$ 25,230	\$ -	\$ -	\$ 25,230	\$ -	\$ -	0%	0%	100%	0%	0%
GF ADMIN	\$ 45,673	\$ -	\$ -	\$ 45,673	\$ -	\$ -	0%	0%	100%	0%	0%
<b>TRANSFERS</b>											
TRANSFER OUT - EMPLOYEE BENEFITS FUND	\$ 7,039	\$ -	\$ -	\$ 7,039	\$ -	\$ -	0%	0%	100%	0%	0%
<b>TOTAL: WATER OPERATIONS FUND, Utility Billing</b>	<b>\$ 599,894</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 599,894</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>	<b>0%</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Fire Protection	Basis of Classification				
	FY 2015/16	(COM)	(CAP)	(CA)	(FP)	(FP)	(COM)	(CAP)	(CA)	(FP)	(FP)
<b>OPERATING EXPENSES, continued</b>											
<b>WATER OPERATIONS FUND, Water Conservation</b>											
<b>SALARIES</b>											
SALARIES - GENERAL	\$ 28,017	\$ 28,017	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
SALARIES - PART-TIME TEMP	\$ 10,640	\$ 10,640	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
EARNED LEAVE LIABILITY	\$ 1,902	\$ 1,902	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
UNEMPLOYMENT INSURANCE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
RETIREMENT - GENERAL	\$ 4,999	\$ 4,999	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
DEFERRED COMPENSATION	\$ 475	\$ 475	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
GROUP INSURANCE	\$ 2,651	\$ 2,651	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
MEDICARE	\$ 565	\$ 565	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
INCOME PROTECTION INS	\$ 231	\$ 231	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
WORKERS COMP	\$ 1,665	\$ 1,665	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
BENEFITS	\$ 327	\$ 327	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
SUPPLIES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
TELEPHONE	\$ 127	\$ 127	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
CONTRACT SERVICES	\$ 15,071	\$ 15,071	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
POSTAGE & FREIGHT	\$ 10,424	\$ 10,424	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
PRINTING	\$ 21,273	\$ 21,273	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
AUTO MILEAGE	\$ 712	\$ 712	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
OTHER EXPENSE	\$ 82,436	\$ 82,436	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
TRAINING & EDUCATION	\$ 424	\$ 424	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
CONFERENCE & MEETINGS	\$ 212	\$ 212	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
INTERNAL SERVICES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
GENERAL LIABILITY INSURANCE	\$ 420	\$ 420	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
GF ADMIN	\$ 5,154	\$ 5,154	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
TRANSFERS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
TRANSFER OUT - EMPLOYEE BENEFITS FUND	\$ 512	\$ 512	\$ -	\$ -	\$ -	\$ -	100%	0%	0%	0%	0%
<b>TOTAL: WATER OPERATIONS FUND, Water Conservation</b>	<b>\$ 188,239</b>	<b>\$ 188,239</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2015/16	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
<b>OPERATING EXPENSES, continued</b>											
<b>WATER RATE STABILIZATION FUND</b>											
<b>SUPPLIES</b>											
CONTRACT SERVICES	\$ 53	\$ 16	\$ 32	\$ 3	\$ 1	\$ 1	30%	61%	5%	2%	2%
<b>INTERNAL SERVICES</b>											
GF ADMIN	\$ 550	\$ 165	\$ 335	\$ 27	\$ 11	\$ 11	30%	61%	5%	2%	2%
<b>TOTAL: WATER RATE STABILIZATION FUND (652) EXPENSES</b>	<b>\$ 603</b>	<b>\$ 181</b>	<b>\$ 368</b>	<b>\$ 30</b>	<b>\$ 12</b>	<b>\$ 12</b>	<b>30%</b>	<b>61%</b>	<b>5%</b>	<b>2%</b>	<b>2%</b>

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2015/16	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
<b>OPERATING EXPENSES, continued</b>											
<b>WATER SYSTEM REPLACEMENT FUND</b>											
<b>SUPPLIES</b>											
CONTRACT SERVICES	\$ 849	\$ 255	\$ 535	\$ 42	\$ 17	\$ -	30%	63%	5%	2%	0%
<b>DEBT</b>											
SERVICE FEES	\$ 690	\$ 207	\$ 434	\$ 34	\$ 14	\$ -	30%	63%	5%	2%	0%
<b>INTERNAL SERVICES</b>											
GF ADMIN	\$ 3,455	\$ 1,036	\$ 2,177	\$ 173	\$ 69	\$ -	30%	63%	5%	2%	0%
<b>TRANSFERS</b>											
TRANSFER OUT-WATER CAP.EXPAN.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	30%	63%	5%	2%	0%
<b>TOTAL: WATER SYSTEM REPLACEMENT FUND (653) EXPENSES</b>	<b>\$ 4,993</b>	<b>\$ 1,498</b>	<b>\$ 3,146</b>	<b>\$ 250</b>	<b>\$ 100</b>	<b>\$ -</b>	<b>30%</b>	<b>63%</b>	<b>5%</b>	<b>2%</b>	<b>0%</b>

<b>Grand Total: Operating Expenses</b>	<b>\$ 8,924,651</b>	<b>\$ 2,587,588</b>	<b>\$ 4,607,503</b>	<b>\$ 905,635</b>	<b>\$ 91,937</b>	<b>\$ 731,988</b>	<b>29%</b>	<b>52%</b>	<b>10%</b>	<b>1%</b>	<b>8%</b>
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Classification of Expenses, continued											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2015/16	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
<b>DEBT SERVICE PAYMENTS</b>											
2014 Water Refunding & CIP Revenue Bonds, \$21,975,000	\$ 939,538	\$ -	\$ 939,538	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%
New Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%
<b>TOTAL: DEBT SERVICE PAYMENTS</b>	<b>\$ 939,538</b>	<b>\$ -</b>	<b>\$ 939,538</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>0%</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
<b>Capital Expenditures</b>											
Rate Funded Capital Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	100%	0%	0%	0%
<b>TOTAL REVENUE REQUIREMENTS</b>	<b>\$ 9,864,189</b>	<b>\$ 2,587,588</b>	<b>\$ 5,547,041</b>	<b>\$ 905,635</b>	<b>\$ 91,937</b>	<b>\$ 731,988</b>	<b>26%</b>	<b>56%</b>	<b>9%</b>	<b>1%</b>	<b>7%</b>
<b>Less: Non-Rate Revenues</b>											
RENT & CONCESSIONS	\$ (70,147)	\$ (18,401)	\$ (39,447)	\$ (6,440)	\$ (654)	\$ (5,205)	26%	56%	9%	1%	7%
FRONT FOOTAGE/OFFSITE	\$ (52,500)	\$ (13,772)	\$ (29,523)	\$ (4,820)	\$ (489)	\$ (3,896)	26%	56%	9%	1%	7%
PERCHLORATE SURCHARGE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
UB COLLECTIONS	\$ (2,060)	\$ -	\$ -	\$ (2,060)	\$ -	\$ -	0%	0%	100%	0%	0%
METER INSTALL & SERVICE	\$ (215,325)	\$ (64,598)	\$ (118,429)	\$ (32,299)	\$ -	\$ -	30%	55%	15%	0%	0%
FIRE HYDRANT CHARGE	\$ (50,000)	\$ (13,116)	\$ (28,117)	\$ (4,591)	\$ (466)	\$ (3,710)	26%	56%	9%	1%	7%
OTHER REVENUE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
REIMBURSEMENT OF EXPENSES	\$ (20,600)	\$ (5,404)	\$ (11,584)	\$ (1,891)	\$ (192)	\$ (1,529)	26%	56%	9%	1%	7%
MISC. SALES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
SURPLUS SALES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
MISC. REVENUE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
ANNUAL BACKFLOW INSPECTION	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
UTILITY ACCOUNT SET-UP	\$ (56,650)	\$ -	\$ -	\$ (56,650)	\$ -	\$ -	0%	0%	100%	0%	0%
CONSTRUCTION BACKFLOW INSPECTION	\$ (412)	\$ (108)	\$ (232)	\$ (38)	\$ (4)	\$ (31)	26%	56%	9%	1%	7%
CONST.INSPECT.-BACKFLOW	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
UTILITY BILL DELINQ CHR	\$ (20,600)	\$ -	\$ -	\$ (20,600)	\$ -	\$ -	0%	0%	100%	0%	0%
DELINQUENT BILL CHARGE	\$ (114,493)	\$ -	\$ -	\$ (114,493)	\$ -	\$ -	0%	0%	100%	0%	0%
UTILITY SERVICE CALL	\$ (59,508)	\$ -	\$ -	\$ (59,508)	\$ -	\$ -	0%	0%	100%	0%	0%
CHGS-CURR/PLANS & SPECS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
TRANSFER FROM-640 (SEWER OPS)	\$ (316,409)	\$ (83,001)	\$ (177,930)	\$ (29,050)	\$ (2,949)	\$ (23,480)	26%	56%	9%	1%	7%
TRANSFER FROM-653 (WATER CIP) 2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
TRANSFER FROM-652 (WATER STABL) 2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
<b>Water System Replacement Fund (653)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>26%</b>	<b>56%</b>	<b>9%</b>	<b>1%</b>	<b>7%</b>
OTHER REVENUE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
BOND PROCEEDS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
CAPITAL CONTRIBUTIONS	\$ (133,000)	\$ (34,889)	\$ (74,791)	\$ (12,211)	\$ (1,240)	\$ (9,869)	26%	56%	9%	1%	7%
CHGS-CURR/PLANS & SPECS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
TRANSFER FROM-650 (WATER OPS) 2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
SPECIAL DEPOSITS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	26%	56%	9%	1%	7%
Interest Income	\$ (47,138)	\$ (12,365)	\$ (26,507)	\$ (4,328)	\$ (439)	\$ (3,498)	26%	56%	9%	1%	7%
<b>NET REVENUE REQUIREMENTS</b>	<b>\$ 8,705,347</b>	<b>\$ 2,341,935</b>	<b>\$ 5,040,481</b>	<b>\$ 556,657</b>	<b>\$ 85,504</b>	<b>\$ 680,770</b>					
<b>Allocation of Revenue Requirements</b>	<b>100.0%</b>	<b>26.9%</b>	<b>57.9%</b>	<b>6.4%</b>	<b>1.0%</b>	<b>7.8%</b>					

Classification of Expenses, continued						
Adjustments to Classification of Expenses						
Adjustment for Current Rate Level:	Total	(COM)	(CAP)	(CA)	(FP)	(ZON)
Test Year (FY 2015/16) Target Rate Rev. After Rate Increases	\$8,502,283					
Projected Rate Revenue at Current Rates	\$7,329,555					
Test Year (FY 2015/16) Projected Rate Adjustment	16%					
<b>Net Revenue Requirements</b>	<b>\$ 8,502,283</b>	<b>\$ 2,287,306</b>	<b>\$ 4,908,604</b>	<b>\$ 542,093</b>	<b>\$ 83,510</b>	<b>\$ 680,770</b>
<i>Percent of Revenue</i>	<i>100.0%</i>	<i>26.9%</i>	<i>57.7%</i>	<i>6.4%</i>	<i>1.0%</i>	<i>8.0%</i>

Cost-of-Service Allocation to Fixed vs. Variable Charges	
Fixed Charges	73%
Variable Charges	27%

Rate Alternative #1 Net Revenue Requirements of 50% Fixed / 50% Variable	Total Rate Revenue Requirement s FY 2015/16	Commodity Related Costs	Capacity Related Costs	Customer Related Costs	Fire Protection Related Costs	Zonal Related Costs
Rate-Design Adjustments to Fixed/Variable %	100.0%	42%	44%	5%	1%	8%
Rate-Design Adjustments to Fixed/Variable (\$)	\$8,502,283	\$3,570,372	\$3,753,145	\$414,487	\$83,510	\$680,770

Variable (Volumetric Rates)	50.0%
Fixed Charges	50.0%

Development of the BASE CAPACITY Allocation Factor

Customer Class	FY 2014/15 Volume (hcf) <sup>1</sup>	Percent of Total Volume	% Adjustment for Conservation <sup>2</sup>	Estimated Volume Adjusted for	Percent of Total Volume
Residential SF- Inside	1,551,464	57.2%	20%	1,241,172	57.2%
Residential SF- Outside	49,920	1.8%	20%	39,936	1.8%
Residential - Multi-Family - Inside	308,735	11.4%	20%	246,988	11.4%
Commercial - Inside	801,354	29.6%	20%	641,084	29.6%
Commercial - Outside	68	0.0%	20%	54	0.0%
<b>Subtotal</b>	<b>2,711,541</b>	<b>100.0%</b>	<b>--</b>	<b>2,169,235</b>	<b>100.0%</b>
Fire	45	0.0%	0%	-	0.0%
<b>Grand Total</b>	<b>2,711,586</b>	<b>100.0%</b>	<b>20%</b>	<b>2,169,235</b>	<b>100.0%</b>

1. Consumption data source: Billed Consumption Report by Month spreadsheets.

2. Additional conservation expected from FY 2014/15. Based on a 38% conservation of CY 2013 consumption (3.5 mil hcf), per the State's August 27, 2015 water supplier report source of 2013 consumption: Item10\_Monthly Sales By Class 2013\_2014\_2015.xlsx

**Commodity Related Costs:** These costs are associated with the total consumption (flow) of water over a specified period of time (e.g. annual).

Development of the CAPACITY (MAX MONTH) Allocation Factors

Customer Class	Average Monthly Use (hcf)	Peak Monthly Use (hcf) <sup>1</sup>	Peak Month Factor	Max Month Capacity Factor
Residential SF- Inside	129,289	234,405	1.81	58.0%
Residential SF- Outside	4,160	6,690	1.61	1.7%
Residential - Multi-Family - Inside	25,728	41,773	1.62	10.3%
Commercial - Inside	66,780	121,307	1.82	30.0%
Commercial - Outside	6	16	2.82	0.0%
<b>Subtotal</b>	<b>225,962</b>	<b>404,191</b>	<b>1.79</b>	<b>100.0%</b>
Fire	4	21	5.60	0.0%
<b>Grand Total</b>	<b>225,966</b>	<b>404,212</b>	<b>1.79</b>	<b>100.0%</b>

1. Based on peak monthly data (peak day data not available).

**Capacity Related Costs:** Costs associated with the maximum demand required at one point in time or the maximum size of facilities required to meet this demand.

CITY OF MORGAN HILL  
WATER RATE STUDY  
Water Cost of Service Analysis  
Draft Copy - Subject to Revision

Rate Alternative #2

Development of the Customer Allocation Factor		
Customer Class	Number of Meters <sup>1</sup>	Percent of Total
Residential SF- Inside	9,370	69.3%
Residential SF- Outside	312	2.3%
Residential - Multi-Family - Inside	1,996	14.8%
Commercial - Inside	1,573	11.6%
Commercial - Outside	3	0.0%
<b>Subtotal</b>	<b>13,254</b>	<b>98.1%</b>
Fire	262	1.9%
<b>Grand Total</b>	<b>13,516</b>	<b>100.0%</b>

1. Number of meters is from the Billed Consumption Report by Month spreadsheets (Month of July).

**Customer Related Costs** : Costs associated with having a customer on the water system. These costs vary with the addition or deletion of customers on the system. Examples: Meter-reading, Postage and billing.

**Meter Equivalency Factors Used in Fixed Charge Calculations:**

Meter Size	Standard Meters			Fire Service Meters	
	Meter Capacity (gpm) <sup>1</sup>	Residential Equivalency to 1-inch <sup>2</sup>	Commercial Equivalency to 1-inch	Meter Capacity (gpm) <sup>3</sup>	Equivalency to 1-inch
	<u>Displacement Meters</u>			<u>Displacement Meters</u>	
5/8 inch	20	1.00	1.00	20	0.40
3/4 inch	30	1.00	1.00	30	0.60
1 inch	50	1.00	1.00	50	1.00
1.5 inch	100	2.00	2.00	100	2.00
2 inch	160	3.20	3.20	160	3.20
	<u>Compound Class I Meters</u>			<u>Fire Service Type I &amp; II</u>	
3 inch	320	6.40	6.40	350	7.00
4 inch	500	10.00	10.00	700	14.00
6 inch	1,000	20.00	20.00	1,600	32.00
8 inch	1,600	32.00	32.00	2,800	56.00
	<u>Turbine Class II Meters</u>				
10 inch	4,200	84.00	84.00	4,400	88.00

1. Per AWWA M-1, Table B-1.

2. Residential meters 5/8" - 1" are all set to an equivalency factor of 1.0, per direction from City Staff.

3. Per AWWA M-6, Table 5-3.

Classification Components	Cost-of-Service Net Revenue Requirements (Test Year 2015-16)		Proposed Rate Adjusted Net Revenue Requirements (2015-16) 50% Fixed / 50% Variable	
Commodity-Related Costs	\$ 2,287,306	27%	\$ 3,570,372	42%
Capacity-Related Costs	\$ 4,908,604	58%	\$ 3,753,145	44%
Customer-Related Costs	\$ 542,093	6%	\$ 414,487	5%
Fire Protection-Related Costs	\$ 83,510	1%	\$ 83,510	1%
<b>Subtotal Revenue Requirement</b>	<b>\$ 7,821,513</b>	<b>92%</b>	<b>\$ 7,821,513</b>	<b>92%</b>
Zonal Related Costs <sup>1</sup>	\$ 680,770	8%	\$ 680,770	8%
<b>Net Total Revenue Requirement</b>	<b>\$ 8,502,283</b>	<b>100%</b>	<b>\$ 8,502,283</b>	<b>100%</b>

1. Zonal Related Costs are recovered via the zonal charge and are not included in this rate revenue calculation.

<u>Unadjusted Net Rev. Req'ts.</u>		<u>Adjusted Net Rev. Req'ts.</u>	
35%	total variable	50%	total variable
65%	total fixed	50%	total fixed
100%		100%	

**Allocation of FY 2015/16 Adjusted Net Revenue Requirements:** *Net Revenue Requirements (50% Fixed / 50% Variable)*

Customer Class	Cost Classification Components				Cost of Service Net Revenue Reqs	% of COS Net Revenue Reqs
	Commodity	Capacity	Customer	Fire Protection		
Residential	\$ 2,515,114	\$ 2,626,591	\$ 358,122	\$ -	\$ 5,499,828	70%
Non-Residential	\$ 1,055,258	\$ 1,126,553	\$ 48,330	\$ -	\$ 2,230,141	29%
Fire	\$ -	\$ -	\$ 8,035	\$ 83,510	\$ 91,544	1%
<b>Grand Total</b>	<b>\$ 3,570,372</b>	<b>\$ 3,753,145</b>	<b>\$ 414,487</b>	<b>\$ 83,510</b>	<b>\$ 7,821,513</b>	<b>100%</b>
	46%	48%	5%	1%	100%	
	46%		54%			

**CALCULATION OF MONTHLY RESIDENTIAL FIXED METER SERVICE CHARGES FOR FY 2015/16:**

*Net Revenue Requirements (50% Fixed / 50% Variable)*

Number of Meters by Class and Size <sup>1</sup>	FY2015-16										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
<b>Residential</b>	1,454	1,599	8,461	98	52	-	9	5	-	-	11,678
<i>Hydraulic Capacity Factor<sup>2</sup></i>	1.00	1.00	1.00	2.00	3.20	6.40	10.00	20.00	32.00	84.00	
<b>Total Equivalent Meters</b>	<b>1,454</b>	<b>1,599</b>	<b>8,461</b>	<b>196</b>	<b>166</b>	<b>-</b>	<b>90</b>	<b>100</b>	<b>-</b>	<b>-</b>	<b>12,066</b>
<b>Monthly Fixed Service Charges</b>											
Customer Costs (\$/Acct/mo.) <sup>3</sup>	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	
Capacity Costs (\$/Acct/mo.) <sup>4</sup>	18.14	18.14	18.14	36.28	58.05	116.09	181.40	362.80	580.47	1,523.75	
<b>Total Monthly Meter Charge</b>	<b>\$20.70</b>	<b>\$20.70</b>	<b>\$20.70</b>	<b>\$38.84</b>	<b>\$60.60</b>	<b>\$118.65</b>	<b>\$183.95</b>	<b>\$365.35</b>	<b>\$583.03</b>	<b>\$1,526.30</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>											
Customer Costs	\$ 358,122										
Capacity Costs	\$ 2,626,591										
<b>Total Fixed Meter Costs</b>	<b>\$ 2,984,714</b>										
<b>Annual Revenue from Monthly Meter Charges</b>											
Customer Charges	\$ 44,589	\$ 49,036	\$ 259,469	\$ 3,005	\$ 1,595	\$ -	\$ 276	\$ 153	\$ -	\$ -	\$ 358,122
Capacity Charges	316,504	348,067	1,841,775	42,665	36,222	-	19,591	21,768	-	-	\$ 2,626,591
<b>Total Revenue from Mo. Meter Charges</b>	<b>\$ 361,093</b>	<b>\$ 397,103</b>	<b>\$ 2,101,243</b>	<b>\$ 45,670</b>	<b>\$ 37,816</b>	<b>\$ -</b>	<b>\$ 19,867</b>	<b>\$ 21,921</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,984,714</b>

CALCULATION OF MONTHLY NON-RESIDENTIAL FIXED METER SERVICE CHARGES FOR FY 2015/16:

Net Revenue Requirements (50% Fixed / 50% Variable)

Number of Meters by Class and Size <sup>1</sup>	FY2015-16										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
<b>Non - Residential</b>	61	99	568	363	441	13	30	1	-	-	1,576
<i>Hydraulic Capacity Factor<sup>2</sup></i>	1.00	1.00	1.00	2.00	3.20	6.40	10.00	20.00	32.00	84.00	
<b>Total Equivalent Meters</b>	<b>61</b>	<b>99</b>	<b>568</b>	<b>726</b>	<b>1,411</b>	<b>83</b>	<b>300</b>	<b>20</b>	<b>-</b>	<b>-</b>	<b>3,268</b>
<b>Monthly Fixed Service Charges</b>											
Customer Costs (\$/Acct/mo.) <sup>3</sup>	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	
Capacity Costs (\$/Acct/mo.) <sup>4</sup>	28.72	28.72	28.72	57.45	91.91	183.83	287.23	574.47	919.15	2,412.76	
<b>Total Monthly Meter Charge</b>	<b>\$31.28</b>	<b>\$31.28</b>	<b>\$31.28</b>	<b>\$60.00</b>	<b>\$94.47</b>	<b>\$186.39</b>	<b>\$289.79</b>	<b>\$577.02</b>	<b>\$921.70</b>	<b>\$2,415.32</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>											
Customer Costs	\$ 48,330										
Capacity Costs	\$ 1,126,553										
<b>Total Fixed Meter Costs</b>	<b>\$ 1,174,884</b>										
<b>Annual Revenue from Monthly Meter Charges</b>											
Customer Charges	\$ 1,871	\$ 3,036	\$ 17,419	\$ 11,132	\$ 13,524	\$ 399	\$ 920	\$ 31	\$ -	\$ -	\$ 48,330
Capacity Charges	21,026	34,123	195,778	250,238	486,413	28,677	103,404	6,894	-	-	\$ 1,126,553
<b>Total Revenue from Mo. Meter Charges</b>	<b>\$ 22,896</b>	<b>\$ 37,159</b>	<b>\$ 213,197</b>	<b>\$ 261,370</b>	<b>\$ 499,937</b>	<b>\$ 29,076</b>	<b>\$ 104,324</b>	<b>\$ 6,924</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,174,884</b>

1. Number of meters by size and class is per the City of Morgan Hill's utility billing data as of July 2015 in the Billed Consumption Report by Month spreadsheets.
2. Source: AWWA Manual M1, "Principles of Water Rates, Fees, and Charges", Table B-1. Assumes displacement meters for 5/8 - 2 inch meters, Compound Class I for 3 - 8 inch meters, and Turbine Class II for 10 inch meters.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES COMMERCIAL FIRE METERS FOR FY 2015/16:

Net Revenue Requirements (50% Fixed / 50% Variable)

Number of Meters by Class and Size <sup>1</sup>	FY2015-16										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
<b>Fire Meters</b>	-	-	-	-	-	-	64	126	67	5	262
<i>Hydraulic Capacity Factor<sup>2</sup></i>	0.40	0.60	1.00	2.00	3.20	7.00	14.00	32.00	56.00	88.00	
<b>Total Equivalent Meters</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>896</b>	<b>4,032</b>	<b>3,752</b>	<b>440</b>	<b>9,120</b>
<b>Monthly Fixed Service Charges</b>											
Customer Costs (\$/Acct/mo.) <sup>3</sup>	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	\$2.56	
Fire Protection Costs (\$/Acct/mo.) <sup>4</sup>	\$0.31	\$0.46	\$0.76	\$1.53	\$2.44	\$5.34	\$10.68	\$24.42	\$42.73	\$67.15	
<b>Total Monthly Meter Charge</b>	<b>\$2.86</b>	<b>\$3.01</b>	<b>\$3.32</b>	<b>\$4.08</b>	<b>\$5.00</b>	<b>\$7.90</b>	<b>\$13.24</b>	<b>\$26.97</b>	<b>\$45.29</b>	<b>\$69.71</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>											
Customer Costs	\$ 8,035										
Fire Protection Costs	\$ 83,510										
<b>Total Fixed Meter Costs</b>	<b>\$ 83,510</b>										
<b>Annual Revenue from Monthly Meter Charges</b>											
Customer Charges	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,963	\$ 3,864	\$ 2,055	\$ 153	\$ 8,035
Fire Protection Costs	-	-	-	-	-	-	8,204	36,920	34,356	4,029	\$ 83,510
<b>Total Revenue from Mo. Meter Charges</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 10,167</b>	<b>\$ 40,784</b>	<b>\$ 36,411</b>	<b>\$ 4,182</b>	<b>\$ 91,544</b>

1. Number of meters by size and class is per the City of Morgan Hill's utility billing data as of July 2015 in the Billed Consumption Report by Month spreadsheets.
2. Source: AWWA Manual M6, "Water Meters - Selection, Installation, Testing and Maintenance", Table 5-3. Assumes Displacement Meters for 5/8 - 2 inch meters and Fire Service Type I & II for 3 - 10 inch meters.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Fire Protection costs are allocated by meter size and the hydraulic capacity of the meter.

**Projected Revenue From Fixed Charges by Customer Class** **Net Revenue Requirements (50% Fixed / 50% Variable)**

Number of Meters by Class and Size <sup>1</sup>	FY2015-16										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
Residential	1,454	1,599	8,461	98	52	-	9	5	-	-	11,678
Non-Residential	61	99	568	363	441	13	30	1	-	-	1,576
Fire Meters	-	-	-	-	-	-	64	126	67	5	262
<b>Total Meters/Accounts</b>	<b>1,515</b>	<b>1,698</b>	<b>9,029</b>	<b>461</b>	<b>493</b>	<b>13</b>	<b>103</b>	<b>132</b>	<b>67</b>	<b>5</b>	<b>13,516</b>
<i>Residential Fixed Charges by Meter Size</i>	<i>\$20.70</i>	<i>\$20.70</i>	<i>\$20.70</i>	<i>\$38.84</i>	<i>\$60.60</i>	<i>\$118.65</i>	<i>\$183.95</i>	<i>\$365.35</i>	<i>\$583.03</i>	<i>\$1,526.30</i>	
<i>Non-Residential Fixed Charges by Meter</i>	<i>\$31.28</i>	<i>\$31.28</i>	<i>\$31.28</i>	<i>\$60.00</i>	<i>\$94.47</i>	<i>\$186.39</i>	<i>\$289.79</i>	<i>\$577.02</i>	<i>\$921.70</i>	<i>\$2,415.32</i>	
<i>Fixed Charges - Fire Meters Only</i>	<i>\$2.86</i>	<i>\$3.01</i>	<i>\$3.32</i>	<i>\$4.08</i>	<i>\$5.00</i>	<i>\$7.90</i>	<i>\$13.24</i>	<i>\$26.97</i>	<i>\$45.29</i>	<i>\$69.71</i>	
<b>Revenue from Fixed Charges</b>											
Residential	\$ 361,093	\$ 397,103	\$ 2,101,243	\$ 45,670	\$ 37,816	\$ -	\$ 19,867	\$ 21,921	\$ -	\$ -	\$ 2,984,714
Non-Residential	\$ 22,896	\$ 37,159	\$ 213,197	\$ 261,370	\$ 499,937	\$ 29,076	\$ 104,324	\$ 6,924	\$ -	\$ -	\$ 1,174,884
Fire	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,167	\$ 40,784	\$ 36,411	\$ 4,182	\$ 91,544
<b>Total Revenue - Fixed Charges</b>											<b>\$ 4,251,142</b>



**Proposed Rate - Revenue Requirements (Allocation - 50% Fixed / 50% Variable) - Fiscal Year 2017/18**

Classification Components	Adjusted Net Revenue Requirements (2017-18) <sup>1</sup>	
Commodity-Related Costs	\$ 4,876,443	42%
Capacity-Related Costs	\$ 5,126,076	44%
Customer-Related Costs	\$ 566,110	5%
Fire Protection-Related Costs	\$ 114,058	1%
<b>Subtotal Revenue Requirement</b>	<b>\$ 10,682,688</b>	<b>92%</b>
Zonal Related Costs <sup>2</sup>	\$ 929,801	8%
<b>Net Total Revenue Requirement</b>	<b>\$ 11,612,489</b>	<b>100%</b>

Adjusted Net Rev. Req'ts.  
50% total variable  
50% total fixed  
100%

1. Due to customer growth, rates need to be re-calculated.

2. Zonal Related Costs are recovered via the zonal charge and are not included in this rate revenue calculation.

**Allocation of FY 2017/18 Adjusted Net Revenue Requirements: Net Revenue Requirements (50% Fixed / 50% Variable)**

Customer Class	Cost Classification Components				Cost of Service Net Revenue	% of COS Net Revenue Reqts
	Commodity	Capacity	Customer	Fire Protection		
Residential	\$ 3,435,164	\$ 3,587,420	\$ 489,126	\$ -	\$ 7,511,710	70%
Non-Residential	\$ 1,441,280	\$ 1,538,656	\$ 66,010	\$ -	\$ 3,045,946	29%
Fire	\$ -	\$ -	\$ 10,974	\$ 114,058	\$ 125,032	1%
<b>Grand Total</b>	<b>\$ 4,876,443</b>	<b>\$ 5,126,076</b>	<b>\$ 566,110</b>	<b>\$ 114,058</b>	<b>\$ 10,682,688</b>	<b>100%</b>
	46%	48%	5%	1%	100%	
	46%		54%			

**CALCULATION OF MONTHLY RESIDENTIAL FIXED METER SERVICE CHARGES FOR FY 2017/18:**

**Net Revenue Requirements (50% Fixed / 50% Variable)**

Number of Meters by Class and Size <sup>1</sup>	Projected FY 2017-18										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
<b>Residential</b>	1,513	1,664	8,803	102	54	-	9	5	-	-	12,150
<i>Hydraulic Capacity Factor <sup>2</sup></i>	1.00	1.00	1.00	2.00	3.20	6.40	10.00	20.00	32.00	84.00	
<b>Total Equivalent Meters</b>	<b>1,513</b>	<b>1,664</b>	<b>8,803</b>	<b>204</b>	<b>173</b>	<b>-</b>	<b>94</b>	<b>104</b>	<b>-</b>	<b>-</b>	<b>12,554</b>
<b>Monthly Fixed Service Charges</b>											
Customer Costs (\$/Acct/mo.) <sup>3</sup>	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	
Capacity Costs (\$/Acct/mo.) <sup>4</sup>	23.81	23.81	23.81	47.63	76.20	152.41	238.13	476.27	762.03	2,000.33	
<b>Total Monthly Meter Charge</b>	<b>\$27.17</b>	<b>\$27.17</b>	<b>\$27.17</b>	<b>\$50.98</b>	<b>\$79.56</b>	<b>\$155.76</b>	<b>\$241.49</b>	<b>\$479.62</b>	<b>\$765.39</b>	<b>\$2,003.69</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>											
Customer Costs	\$ 489,126										
Capacity Costs	\$ 3,587,420										
<b>Total Fixed Meter Costs</b>	<b>\$ 4,076,546</b>										
<b>Annual Revenue from Monthly Meter Charges</b>											
Customer Charges	\$ 60,900	\$ 66,973	\$ 354,384	\$ 4,105	\$ 2,178	\$ -	\$ 377	\$ 209	\$ -	\$ -	\$ 489,126
Capacity Charges	432,284	475,393	2,515,511	58,272	49,472	-	26,758	29,731	-	-	\$ 3,587,420
<b>Total Revenue from Mo. Meter Charges</b>	<b>\$ 493,184</b>	<b>\$ 542,366</b>	<b>\$ 2,869,895</b>	<b>\$ 62,377</b>	<b>\$ 51,650</b>	<b>\$ -</b>	<b>\$ 27,135</b>	<b>\$ 29,940</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,076,546</b>

**CALCULATION OF MONTHLY NON-RESIDENTIAL FIXED METER SERVICE CHARGES FOR FY 2017/18:**

**Net Revenue Requirements (50% Fixed / 50% Variable)**

Number of Meters by Class and Size <sup>1</sup>	Projected FY 2017-18										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
<b>Non - Residential</b>	63	103	591	378	459	14	31	1	-	-	1,640
<i>Hydraulic Capacity Factor<sup>2</sup></i>	1.00	1.00	1.00	2.00	3.20	6.40	10.00	20.00	32.00	84.00	
<b>Total Equivalent Meters</b>	<b>63</b>	<b>103</b>	<b>591</b>	<b>755</b>	<b>1,468</b>	<b>87</b>	<b>312</b>	<b>21</b>	<b>-</b>	<b>-</b>	<b>3,400</b>
<b>Monthly Fixed Service Charges</b>											
Customer Costs (\$/Acct/mo.) <sup>3</sup>	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	
Capacity Costs (\$/Acct/mo.) <sup>4</sup>	37.71	37.71	37.71	75.41	120.66	241.33	377.07	754.14	1,206.63	3,167.41	
<b>Total Monthly Meter Charge</b>	<b>\$41.06</b>	<b>\$41.06</b>	<b>\$41.06</b>	<b>\$78.77</b>	<b>\$124.02</b>	<b>\$244.68</b>	<b>\$380.43</b>	<b>\$757.50</b>	<b>\$1,209.99</b>	<b>\$3,170.76</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>											
Customer Costs	\$ 66,010										
Capacity Costs	\$ 1,538,656										
<b>Total Fixed Meter Costs</b>	<b>\$ 1,604,666</b>										
<b>Annual Revenue from Monthly Meter Charges</b>											
Customer Charges	\$ 2,555	\$ 4,147	\$ 23,790	\$ 15,204	\$ 18,471	\$ 544	\$ 1,257	\$ 42	\$ -	\$ -	\$ 66,010
Capacity Charges	28,717	46,606	267,396	341,777	664,347	39,168	141,230	9,415	-	-	\$ 1,538,656
<b>Total Revenue from Mo. Meter Charges</b>	<b>\$ 31,272</b>	<b>\$ 50,753</b>	<b>\$ 291,186</b>	<b>\$ 356,981</b>	<b>\$ 682,818</b>	<b>\$ 39,712</b>	<b>\$ 142,487</b>	<b>\$ 9,457</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,604,666</b>

1. Number of meters by size and class increased by the expected growth in connections to the water system.
2. Source: AWWA Manual M1, "Principles of Water Rates, Fees, and Charges", Table B-1. Assumes displacement meters for 5/8 - 2 inch meters, Compound Class I for 3 - 8 inch meters, and Turbine Class II for 10 inch meters.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

**CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES COMMERCIAL FIRE METERS FOR FY 2017/18:**

**Net Revenue Requirements (50% Fixed / 50% Variable)**

Number of Meters by Class and Size <sup>1</sup>	Projected FY 2017-18										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
<b>Fire Meters</b>	-	-	-	-	-	-	67	131	70	5	273
<i>Hydraulic Capacity Factor<sup>2</sup></i>	0.40	0.60	1.00	2.00	3.20	7.00	14.00	32.00	56.00	88.00	
<b>Total Equivalent Meters</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>932</b>	<b>4,195</b>	<b>3,904</b>	<b>458</b>	<b>9,488</b>
<b>Monthly Fixed Service Charges</b>											
Customer Costs (\$/Acct/mo.) <sup>3</sup>	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	\$3.35	
Fire Protection Costs (\$/Acct/mo.) <sup>4</sup>	\$0.40	\$0.60	\$1.00	\$2.00	\$3.21	\$7.01	\$14.02	\$32.06	\$56.10	\$88.15	
<b>Total Monthly Meter Charge</b>	<b>\$3.76</b>	<b>\$3.96</b>	<b>\$4.36</b>	<b>\$5.36</b>	<b>\$6.56</b>	<b>\$10.37</b>	<b>\$17.38</b>	<b>\$35.41</b>	<b>\$59.45</b>	<b>\$91.51</b>	
<b>Annual Fixed Costs Allocated to Monthly Meter Charges</b>											
Customer Costs	\$ 10,974										
Fire Protection Costs	\$ 114,058										
<b>Total Fixed Meter Costs</b>	<b>\$ 114,058</b>										
<b>Annual Revenue from Monthly Meter Charges</b>											
Customer Charges	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,681	\$ 5,277	\$ 2,806	\$ 209	\$ 10,974
Fire Protection Costs	-	-	-	-	-	-	11,206	50,426	46,924	5,503	\$ 114,058
<b>Total Revenue from Mo. Meter Charges</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 13,886</b>	<b>\$ 55,703</b>	<b>\$ 49,730</b>	<b>\$ 5,712</b>	<b>\$ 125,032</b>

1. Number of meters by size and class increased by the expected growth in connections to the water system.
2. Source: AWWA Manual M6, "Water Meters - Selection, Installation, Testing and Maintenance", Table 5-3. Assumes Displacement Meters for 5/8 - 2 inch meters and Fire Service Type I & II for 3 - 10 inch meters.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Fire Protection costs are allocated by meter size and the hydraulic capacity of the meter.

**Projected Revenue From Fixed Charges by Customer Class** **Net Revenue Requirements (50% Fixed / 50% Variable)**

Number of Meters by Class and Size <sup>1</sup>	FY2017-18										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
Residential	1,513	1,664	8,803	102	54	-	9	5	-	-	12,150
Non-Residential	63	103	591	378	459	14	31	1	-	-	1,640
Fire Meters	-	-	-	-	-	-	67	131	70	5	273
<b>Total Meters/Accounts</b>	<b>1,576</b>	<b>1,767</b>	<b>9,394</b>	<b>480</b>	<b>513</b>	<b>14</b>	<b>107</b>	<b>137</b>	<b>70</b>	<b>5</b>	<b>14,062</b>
<i>Residential Fixed Charges by Meter Size</i>	<i>\$27.17</i>	<i>\$27.17</i>	<i>\$27.17</i>	<i>\$50.98</i>	<i>\$79.56</i>	<i>\$155.76</i>	<i>\$241.49</i>	<i>\$479.62</i>	<i>\$765.39</i>	<i>\$2,003.69</i>	
<i>Non-Residential Fixed Charges by Meter</i>	<i>\$41.06</i>	<i>\$41.06</i>	<i>\$41.06</i>	<i>\$78.77</i>	<i>\$124.02</i>	<i>\$244.68</i>	<i>\$380.43</i>	<i>\$757.50</i>	<i>\$1,209.99</i>	<i>\$3,170.76</i>	
<i>Fixed Charges - Fire Meters Only</i>	<i>\$3.76</i>	<i>\$3.96</i>	<i>\$4.36</i>	<i>\$5.36</i>	<i>\$6.56</i>	<i>\$10.37</i>	<i>\$17.38</i>	<i>\$35.41</i>	<i>\$59.45</i>	<i>\$91.51</i>	
<b>Revenue from Fixed Charges</b>											
Residential	\$ 493,184	\$ 542,366	\$ 2,869,895	\$ 62,377	\$ 51,650	\$ -	\$ 27,135	\$ 29,940	\$ -	\$ -	\$ 4,076,546
Non-Residential	\$ 31,272	\$ 50,753	\$ 291,186	\$ 356,981	\$ 682,818	\$ 39,712	\$ 142,487	\$ 9,457	\$ -	\$ -	\$ 1,604,666
Fire	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13,886	\$ 55,703	\$ 49,730	\$ 5,712	\$ 125,032
<b>Total Revenue - Fixed Charges</b>											<b>\$ 5,806,244</b>

**Proposed Rate - FY2015/16 Revenue Requirements (Allocation - 50% Fixed / 50% Variable)**

Customer Classes	Number of Meters <sup>1</sup>	Water Consumption (hcf/yr) <sup>2</sup>	Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates (\$/hcf)	Proposed Rate Structure
Residential	11,678	1,528,097	\$ 2,515,114	29.6%	\$1.646	Uniform
Non-Residential	1,576	641,138	\$ 1,055,258	12.4%	\$1.646	Uniform
<b>Subtotal</b>	<b>13,254</b>	<b>2,169,235</b>	<b>\$ 3,570,372</b>	<b>42%</b>		
Fire	262	0	\$ -	0.0%	\$1.646	Uniform
<b>Grand Total</b>	<b>13,516</b>	<b>2,169,235</b>	<b>\$ 3,570,372</b>	<b>42%</b>		

**Proposed Rate - FY2017/18 Revenue Requirements (Allocation - 50% Fixed / 50% Variable)**

Customer Classes	Number of Meters <sup>4</sup>	Water Consumption (hcf/yr) <sup>4</sup>	Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates (\$/hcf)	Proposed Rate Structure
Residential	12,150	1,748,815	\$ 3,435,164	32.2%	\$1.964	Uniform
Non-Residential	1,640	733,744	\$ 1,441,280	13.5%	\$1.964	Uniform
<b>Subtotal</b>	<b>13,789</b>	<b>2,482,559</b>	<b>\$ 4,876,443</b>	<b>46%</b>		
Fire	273	0	\$ -	0.0%	\$1.964	Uniform
<b>Grand Total</b>	<b>14,062</b>	<b>2,482,559</b>	<b>\$ 4,876,443</b>	<b>46%</b>		

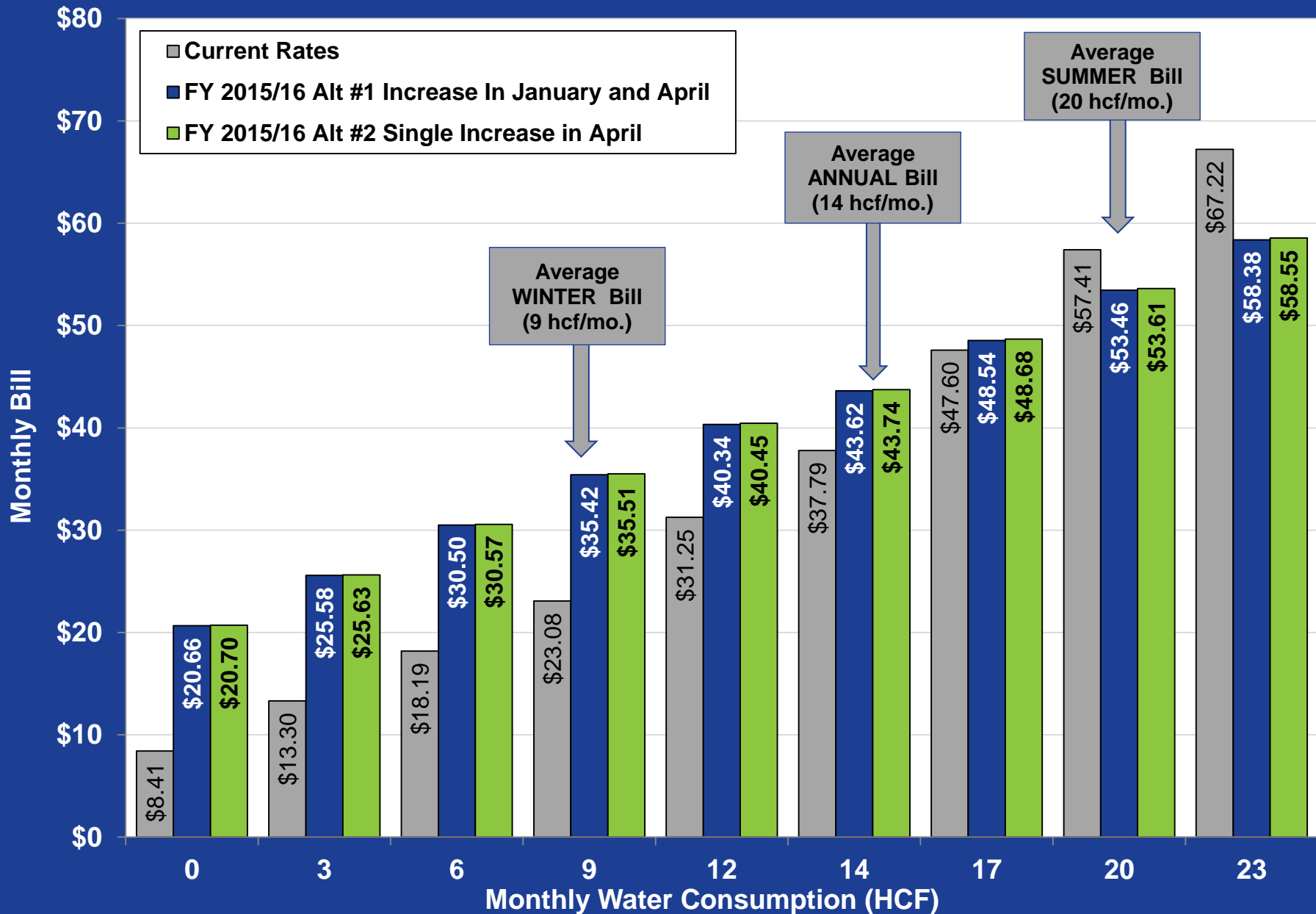
1. Number of meters by size and class is per the City of Morgan Hill's utility billing data as of July 2015 in the Billed Consumption Report by Month spreadsheets, and increased by projected customer growth in FY 2017/18 rate calculation.
2. Water consumption is 20% less than FY2014/15 consumption by customer class to account for additional conservation.
3. Volumetric rates are re-calculated for FY 2017/18 due to customer growth.
4. Number of meters by size and class, and water consumption is increased by the expected growth in connections to the water system.

Current vs. Proposed Water Rates:

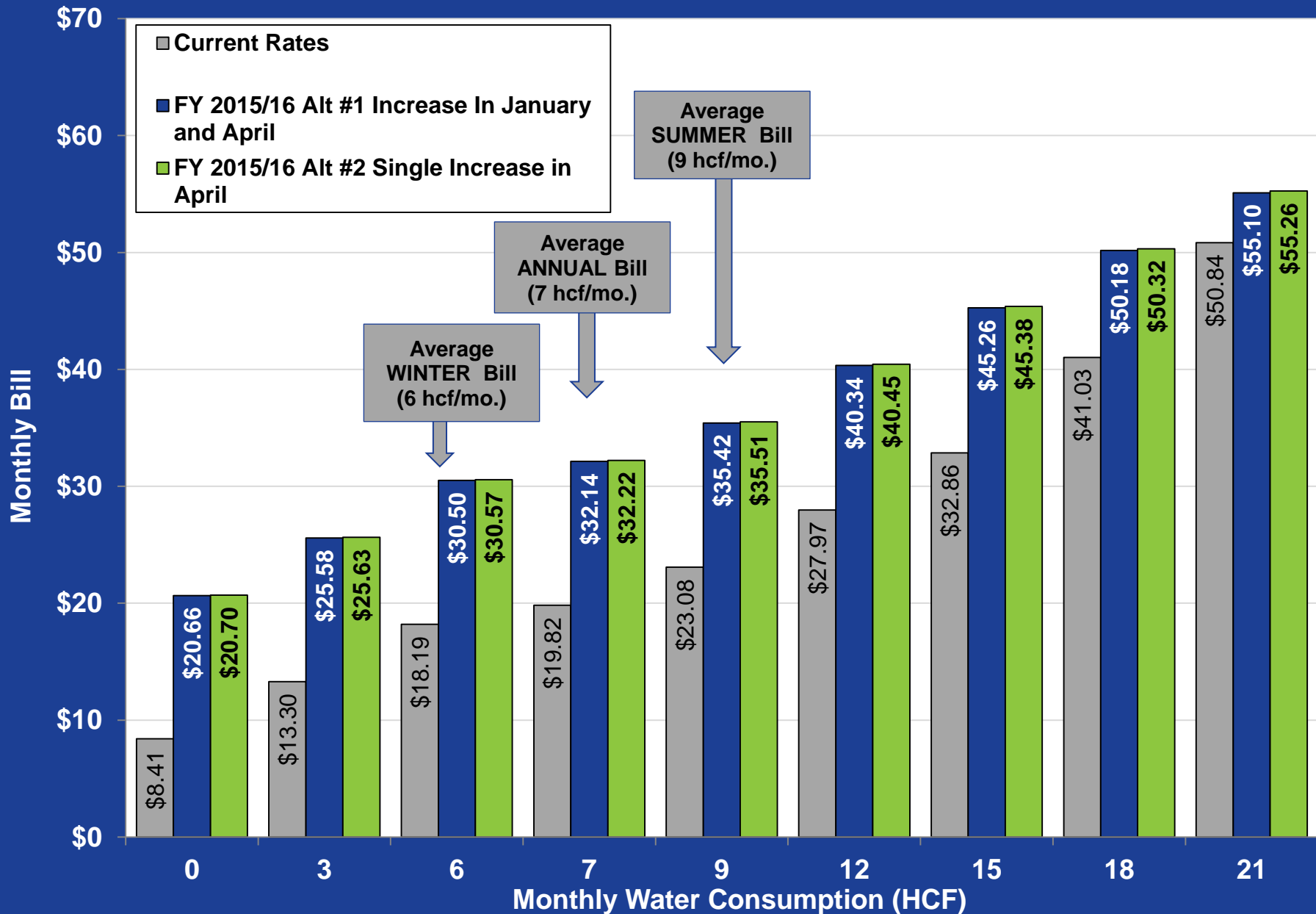
Water Rate Schedule	Current Rates	Proposed Water Rates 50% Fixed / 50% Variable				
		FY 2015/16 <sup>1</sup>	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
Projected Increase in Rate Revenue per Financial Plan:		16.00%	7.25%	7.25%	7.25%	7.25%
<b>Fixed Service Charges</b>	<b>Monthly Rates</b>					
<u>Single- and Multi-Family Residential:</u>						
5/8 inch	\$8.41	\$20.70	\$22.20	\$27.17	\$29.14	\$31.25
3/4 inch	\$8.41	\$20.70	\$22.20	\$27.17	\$29.14	\$31.25
1 inch	\$8.41	\$20.70	\$22.20	\$27.17	\$29.14	\$31.25
1.5 inch	\$13.99	\$38.84	\$41.65	\$50.98	\$54.68	\$58.64
2 inch	\$22.48	\$60.60	\$65.00	\$79.56	\$85.33	\$91.51
3 inch	\$44.90	\$118.65	\$127.25	\$155.76	\$167.05	\$179.17
4 inch	\$72.69	\$183.95	\$197.29	\$241.49	\$259.00	\$277.77
6 inch	\$111.65	\$365.35	\$391.84	\$479.62	\$514.40	\$551.69
<u>Non-Residential:</u>						
5/8 inch	\$8.41	\$31.28	\$33.55	\$41.06	\$44.04	\$47.23
3/4 inch	\$8.41	\$31.28	\$33.55	\$41.06	\$44.04	\$47.23
1 inch	\$8.41	\$31.28	\$33.55	\$41.06	\$44.04	\$47.23
1.5 inch	\$13.99	\$60.00	\$64.35	\$78.77	\$84.48	\$90.60
2 inch	\$22.48	\$94.47	\$101.32	\$124.02	\$133.01	\$142.65
3 inch	\$44.90	\$186.39	\$199.90	\$244.68	\$262.42	\$281.45
4 inch	\$72.69	\$289.79	\$310.80	\$380.43	\$408.01	\$437.59
6 inch	\$111.65	\$577.02	\$618.86	\$757.50	\$812.42	\$871.32
<u>Fire Service:</u>						
3 inch	--	\$7.90	\$8.47	\$10.37	\$11.12	\$11.92
4 inch	\$16.58	\$13.24	\$14.20	\$17.38	\$18.64	\$19.99
6 inch	\$24.86	\$26.97	\$28.93	\$35.41	\$37.98	\$40.73
8 inch	\$33.15	\$45.29	\$48.57	\$59.45	\$63.76	\$68.38
10 inch	\$41.43	\$69.71	\$74.76	\$91.51	\$98.14	\$105.26
<b>Volumetric Charges</b>						
<u>Single-Family Res / Multi-Family Res per DU:</u>						
Tier 1 (1-10 hcf / 1-8 hcf)	\$1.63	--	--	--	--	--
Tier 2 (11-30 hcf / 9-16 hcf)	\$3.27	--	--	--	--	--
Tier 3 (31+ hcf / 17+)	\$4.90	--	--	--	--	--
Uniform Rate, Non-Residential Customers	\$2.67	--	--	--	--	--
Uniform Rate, All Customers	--	\$1.65	\$1.77	\$1.96	\$2.11	\$2.26

1. In this iteration of the analysis, the previously approved and adopted 6.25% rate increase for January 1, 2016 will not be implemented. Only a single increase of 16% will be effective on April 1, 2016. All subsequent rate increases will be effective on January 1st of each year.

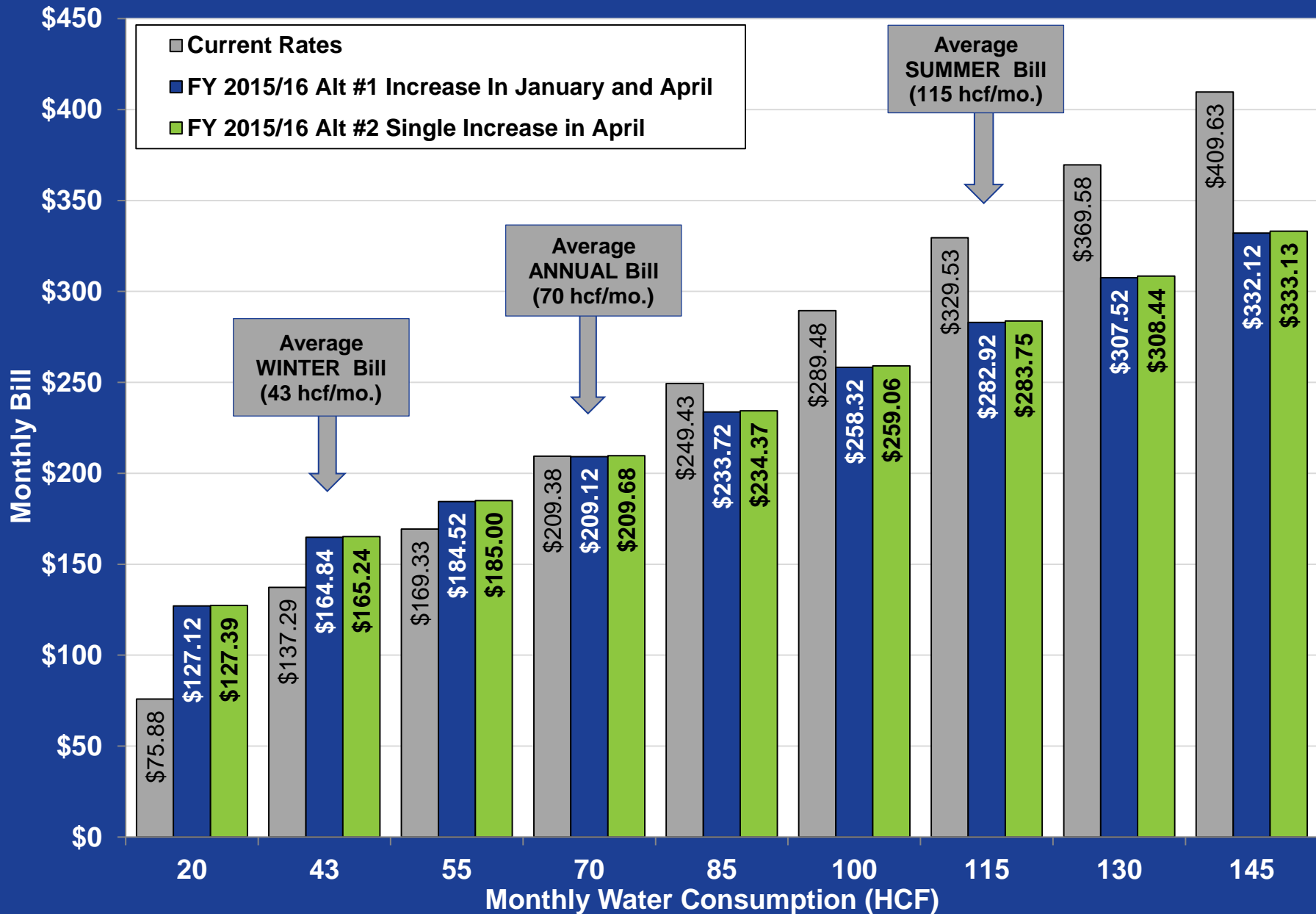
# Single-Family Residential Bill Comparison Fiscal Year 2015/16 (1" meter)



# Multi-Family Residential, Two Dwelling Unit Bill Comparison Fiscal Year 2015/16 (1" meter)

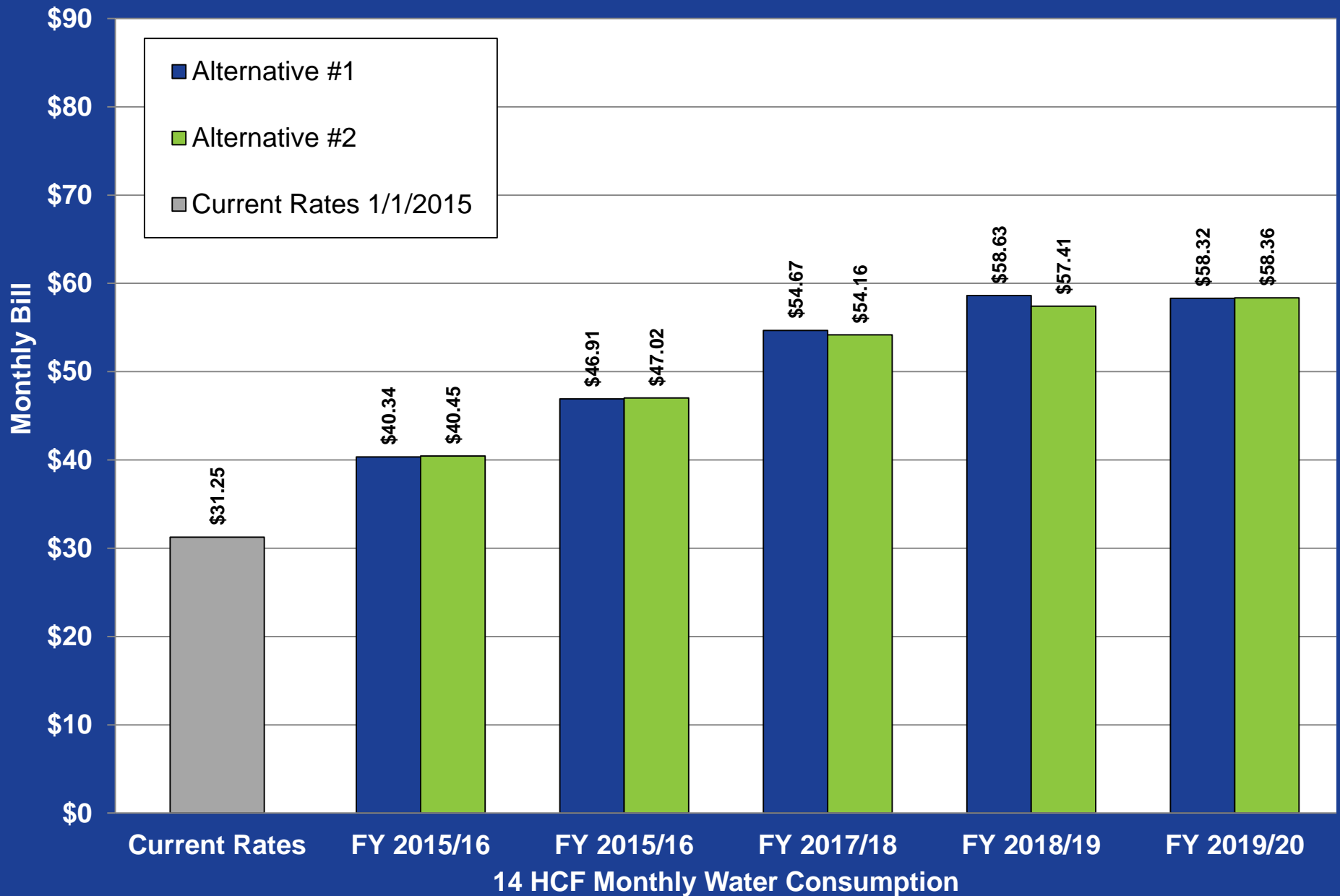


## Commercial Customer Monthly Bill Comparison Fiscal Year 2015/16 (2" meter)





## Average Single-Family Residential Bill Comparison Fiscal Years 2015/16 *through* 2019/20 (1" meter)



## **APPENDIX C - WASTEWATER RATE ANALYSIS**

TABLE 1  
FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Sources of Wastewater Funds</b>					
<b>Rate Revenue:</b>					
Rate Revenue Under Prevailing Rates <sup>1</sup>	\$ 9,921,864	\$ 10,090,078	\$ 10,291,880	\$ 10,497,718	\$ 10,707,672
<b>Non-Rate Revenue in Operations &amp; System Replacement Funds:</b>					
Other Operating Revenue	175,843	179,543	183,354	187,280	191,323
Interest Earnings (in Operating & Capital Reserves) <sup>2</sup>	41,394	15,959	34,087	53,763	50,628
<b>Total Sources of Funds</b>	<b>\$ 10,139,100</b>	<b>\$ 10,285,581</b>	<b>\$ 10,509,320</b>	<b>\$ 10,738,761</b>	<b>\$ 10,949,623</b>
<b>Uses of Wastewater Funds</b>					
Operating Expenses <sup>3</sup> :					
Sewer Operations	\$ 7,378,094	\$ 7,686,589	\$ 8,004,508	\$ 8,339,093	\$ 8,682,107
Sewer Operations - Capital Expense	175,231	161,241	162,589	163,966	166,070
Sewer Rate Stabilization Fund	3,643	3,770	3,902	4,038	4,179
Sewer System Replacement Fund	9,317	9,532	9,753	9,983	10,219
Subtotal: Operating Expenses	\$ 7,566,286	\$ 7,861,132	\$ 8,180,753	\$ 8,517,079	\$ 8,862,574
Other Expenditures:					
Existing Debt Service (Operations & Replacement Fund)	\$ 502,299	\$ 1,841,791	\$ 1,845,120	\$ 1,844,478	\$ 1,844,003
New Debt Service	-	-	-	-	-
Rate-Funded Capital Expenses	-	-	-	-	-
Subtotal: Other Expenditures	\$ 502,299	\$ 1,841,791	\$ 1,845,120	\$ 1,844,478	\$ 1,844,003
<b>Total Uses of Wastewater Funds</b>	<b>\$ 8,068,585</b>	<b>\$ 9,702,923</b>	<b>\$ 10,025,873</b>	<b>\$ 10,361,557</b>	<b>\$ 10,706,577</b>
plus: Revenue from Rate Increases <sup>4</sup>	-	100,901	310,815	533,326	769,026
<b>Increase/(Decrease) to Reserves</b>	<b>\$ 2,070,516</b>	<b>\$ 683,559</b>	<b>\$ 794,262</b>	<b>\$ 910,530</b>	<b>\$ 1,012,072</b>
<b>Net Revenue Req't. (Total Uses less Non-Rate Revenue)</b>	<b>\$ 7,851,348</b>	<b>\$ 9,507,421</b>	<b>\$ 9,808,433</b>	<b>\$ 10,120,514</b>	<b>\$ 10,464,626</b>
<b>Total Rate Revenue After Rate Increases</b>	<b>\$ 9,921,864</b>	<b>\$ 10,190,979</b>	<b>\$ 10,602,695</b>	<b>\$ 11,031,044</b>	<b>\$ 11,476,698</b>
<b>Projected Annual Rate Revenue Increase</b>	<b>0.00%</b>	<b>2.00%</b>	<b>2.00%</b>	<b>2.00%</b>	<b>2.00%</b>
<b>Cumulative Increase from Annual Revenue Increases</b>	<b>0.00%</b>	<b>2.00%</b>	<b>4.04%</b>	<b>6.12%</b>	<b>8.24%</b>
<b>Debt Coverage After Rate Increase <sup>5</sup></b>	<b>5.25</b>	<b>1.44</b>	<b>1.49</b>	<b>1.55</b>	<b>1.61</b>
<b>Target Debt Coverage</b>	<b>1.25</b>	<b>1.25</b>	<b>1.25</b>	<b>1.25</b>	<b>1.25</b>

1. All revenues were projected through FY 2019/20 by the City; for the purpose of this analysis, NBS is using the City's projections for all revenues except rate revenue and interest earnings. Assumption for rate revenue is the 2015/16 amount going forward, inflated by the projected customer growth rate. Interest earnings beyond 2015/16 are calculated here and in the Reserve Fund Summary.
2. Interest earnings for FY 2015/16 are per the City's budget projections. For all future years, interest earnings are calculated here based on historical LAIF returns and projected cash balances.
3. The FY15/16-19/20 operating expenses are per the City's budget projections. Inflationary factors are applied to these expenses to project costs in FY20/21 and beyond.
4. Revenue from rate increases assumes new rates are implemented on January 1st of each year.
5. Per the Official Statement for the 2015 Revenue Bonds, the City is required to maintain a debt coverage ratio of 1.25 for these bond issues and all other parity debt.

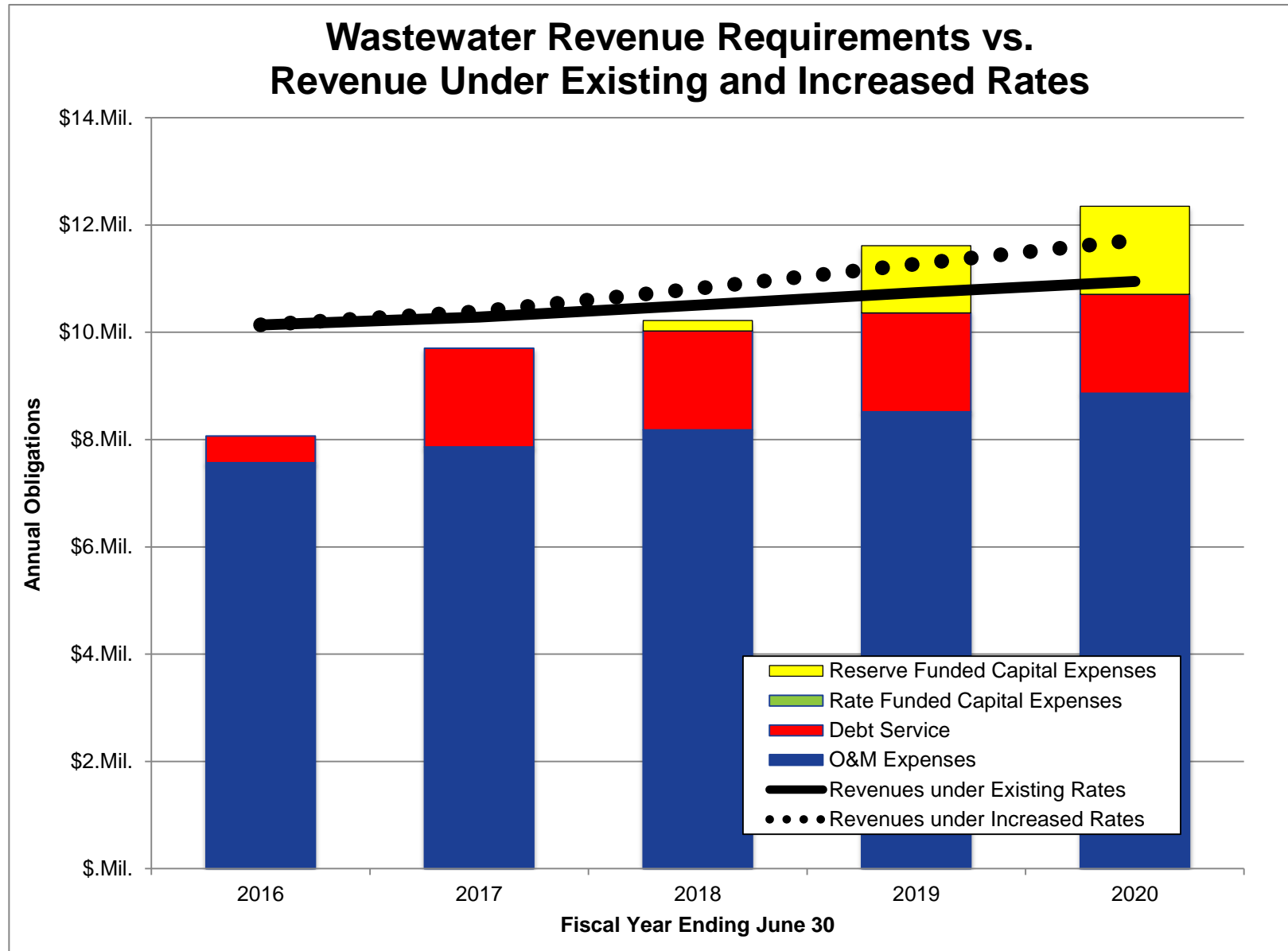
TABLE 2  
RESERVE FUND SUMMARY

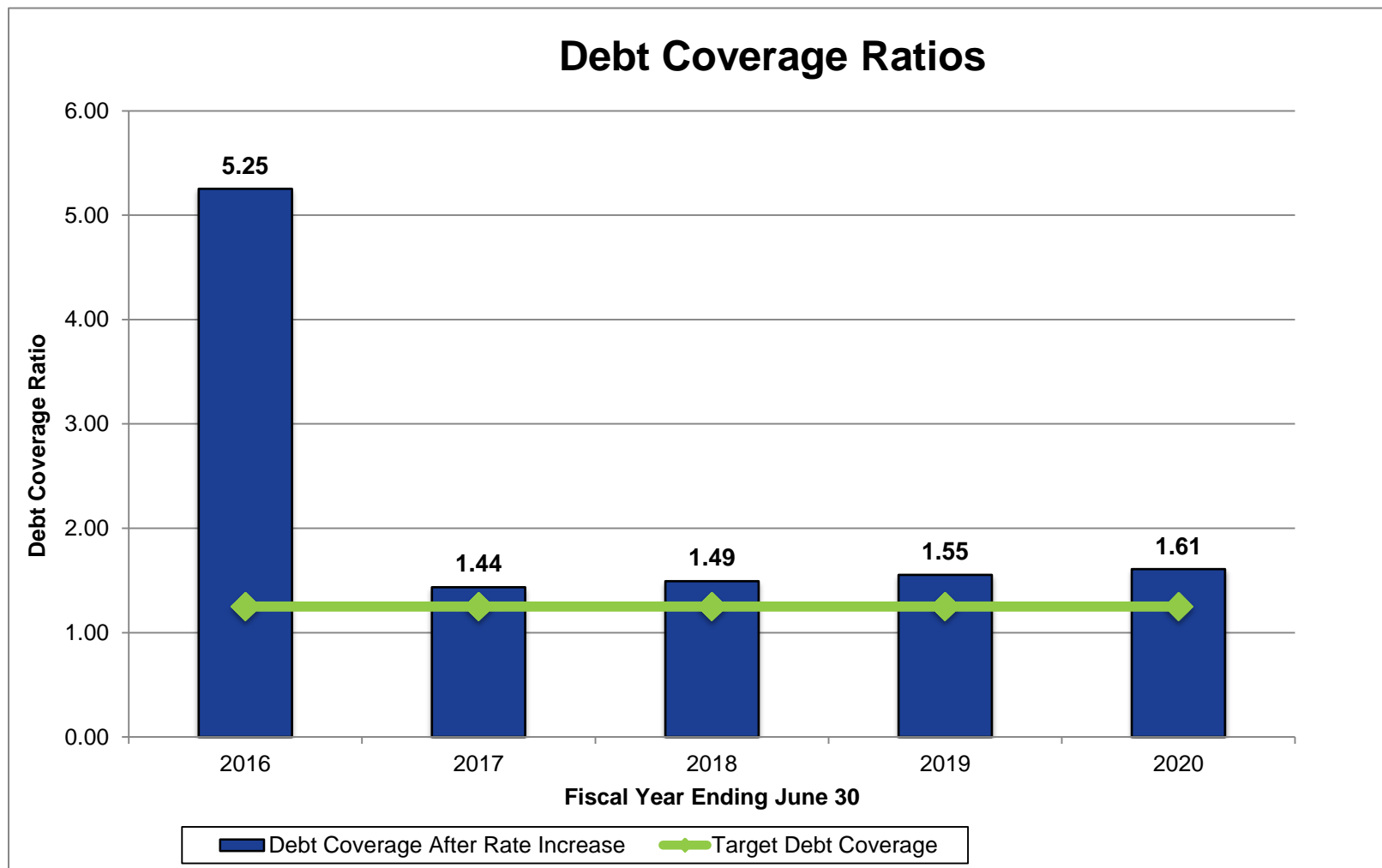
SUMMARY OF CASH ACTIVITY	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Total Beginning Cash <sup>1</sup></b>	<b>\$ 17,814,519</b>				
<b>Sewer Operations Fund (640)</b>					
Beginning Reserve Balance <sup>1</sup>	\$ 4,563,231	\$ 1,892,000	\$ 1,965,000	\$ 2,045,000	\$ 2,129,000
Plus: Net Cash Flow (After Rate Increases)	2,070,516	683,559	794,262	910,530	1,012,072
Plus: Transfer of Rate Stabilization Reserve Surplus	-	-	-	-	-
Plus: Transfer of Surplus in Bond Debt Reserve	-	-	-	-	-
Less: Transfer Out to Rate Stabilization Fund	(250,000)	(250,000)	(250,000)	(75,000)	(50,000)
Less: Transfer Out to Sewer System Replacement Reserve	(4,491,747)	(360,559)	(464,262)	(751,530)	(875,072)
<b>Ending Operating Reserve Balance</b>	<b>\$ 1,892,000</b>	<b>\$ 1,965,000</b>	<b>\$ 2,045,000</b>	<b>\$ 2,129,000</b>	<b>\$ 2,216,000</b>
<b>Target Ending Balance (90-days of O&amp;M)</b>	<b>\$ 1,892,000</b>	<b>\$ 1,965,000</b>	<b>\$ 2,045,000</b>	<b>\$ 2,129,000</b>	<b>\$ 2,216,000</b>
<b>Sewer System Replacement Fund (643)</b>					
Beginning Reserve Balance <sup>1</sup>	\$ -	\$ 4,491,747	\$ 4,852,305	\$ 5,123,429	\$ 4,621,380
Plus: Grant Proceeds	-	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	4,491,747	360,559	464,262	751,530	875,072
Less: Use of Reserves for Capital Projects	-	-	(193,139)	(1,253,578)	(1,641,702)
<b>Ending Capital Improvement &amp; Depreciation Reserve Balance</b>	<b>\$ 4,491,747</b>	<b>\$ 4,852,305</b>	<b>\$ 5,123,429</b>	<b>\$ 4,621,380</b>	<b>\$ 3,854,750</b>
<b>Target Ending Balance (3% of Assets) <sup>2</sup></b>	<b>\$ 1,473,700</b>	<b>\$ 1,662,300</b>	<b>\$ 1,950,100</b>	<b>\$ 2,153,500</b>	<b>\$ 2,402,600</b>
<b>Sewer Rate Stabilization Fund (642)</b>					
Beginning Reserve Balance <sup>1</sup>	\$ 1,253,587	\$ 1,509,814	\$ 1,763,589	\$ 2,022,406	\$ 2,112,575
Plus: Contributions to Rate Stabilization Fund	250,000	250,000	250,000	75,000	50,000
Plus: Interest Earnings <sup>3</sup>	6,227	3,775	8,818	15,168	15,844
Plus: Other Rate Stabilization Reserve Fund Revenue	-	-	-	-	-
Less: Transfer of Surplus to Operating Reserve	-	-	-	-	-
<b>Ending Sewer Rate Stabilization Reserve Balance</b>	<b>\$ 1,509,814</b>	<b>\$ 1,763,589</b>	<b>\$ 2,022,406</b>	<b>\$ 2,112,575</b>	<b>\$ 2,178,419</b>
<b>Target Ending Balance (20% of Estimated Rate Revenue)</b>	<b>\$ 1,984,373</b>	<b>\$ 2,038,196</b>	<b>\$ 2,120,539</b>	<b>\$ 2,206,209</b>	<b>\$ 2,295,340</b>
<b>Ending Balance - Excludes Restricted Reserves</b>	<b>\$ 7,893,561</b>	<b>\$ 8,580,894</b>	<b>\$ 9,190,835</b>	<b>\$ 8,862,955</b>	<b>\$ 8,249,169</b>
<b>Minimum Target Ending Balance - Excludes Restricted Reserves</b>	<b>\$ 5,350,073</b>	<b>\$ 5,665,496</b>	<b>\$ 6,115,639</b>	<b>\$ 6,488,709</b>	<b>\$ 6,913,940</b>
<b>Ending Surplus/(Deficit) Compared to Reserve Targets</b>	<b>\$ 2,543,488</b>	<b>\$ 2,915,398</b>	<b>\$ 3,075,196</b>	<b>\$ 2,374,246</b>	<b>\$ 1,335,229</b>
<b>Days Cash on Hand <sup>4</sup></b>	<b>358</b>	<b>323</b>	<b>335</b>	<b>313</b>	<b>282</b>

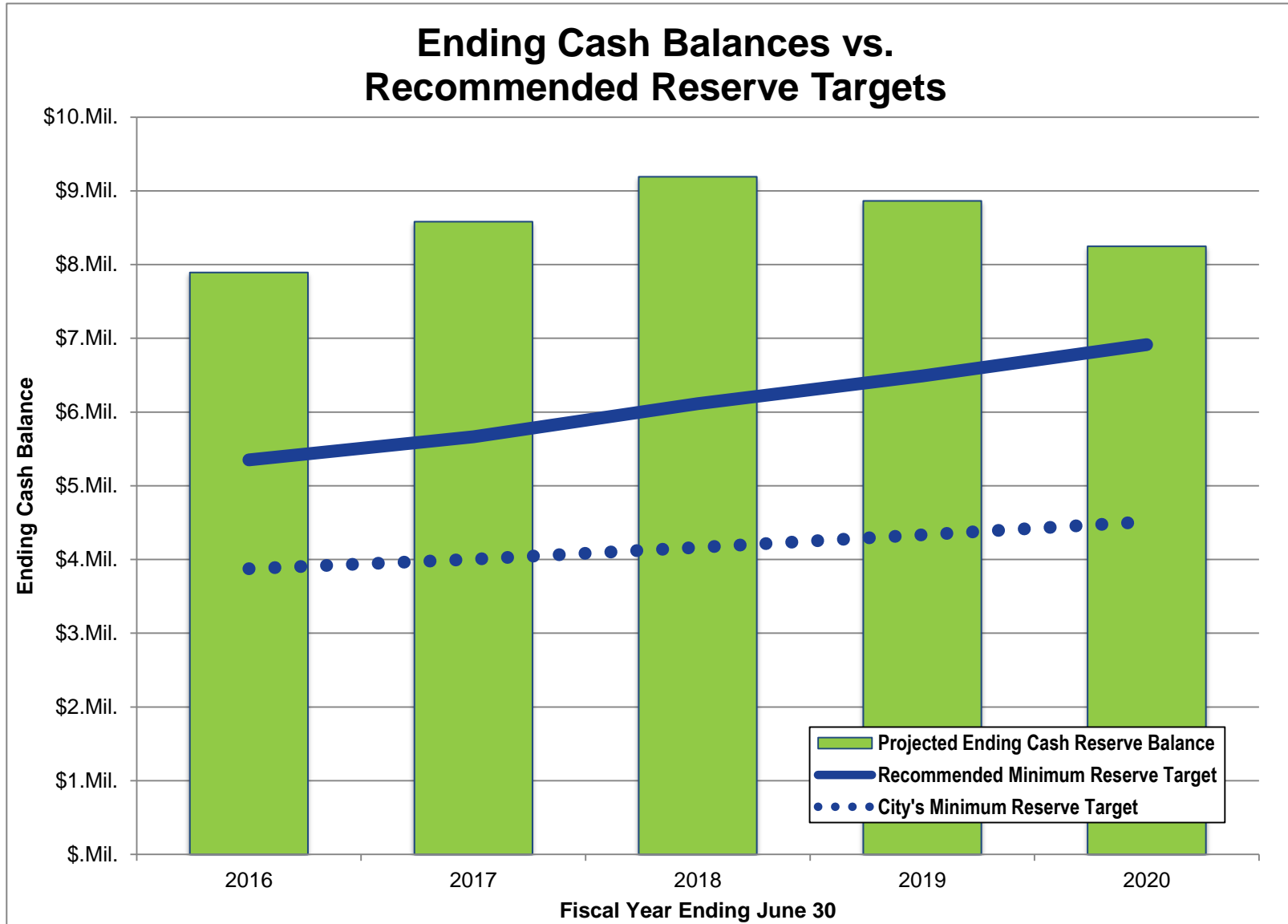
TABLE 3  
RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY, continued	Budget	Projected			
	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Restricted Reserves:</b>					
<b>Impact Fee Fund (641)</b>					
Beginning Reserve Balance <sup>1</sup>	\$ 11,997,701	\$ 6,865,059	\$ 7,999,606	\$ 2,869,067	\$ -
Plus: Interest Earnings <sup>3</sup>	35,671	17,163	39,998	21,518	-
Plus: Impact Fee Revenue <sup>5</sup>	6,805,774	6,070,248	3,663,360	3,663,360	3,456,000
Plus: Other Impact Fee Fund Revenue	-	-	-	-	-
Less: Annual Operating Expenditures	(27,313)	(28,111)	(28,935)	(29,787)	(30,666)
Less: Debt Service (Impact Fund Allocation of 5%)	(25,775)	(94,509)	(94,680)	(94,647)	(94,622)
Less: Use of Reserves for Capital Projects	(11,921,000)	(4,830,243)	(8,710,282)	(6,429,512)	(3,330,712)
<b>Ending Impact Fee Fund Balance</b>	<b>\$ 6,865,059</b>	<b>\$ 7,999,606</b>	<b>\$ 2,869,067</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Annual Interest Earnings Rate <sup>6</sup></b>	<b>0.25%</b>	<b>0.25%</b>	<b>0.50%</b>	<b>0.75%</b>	<b>0.75%</b>

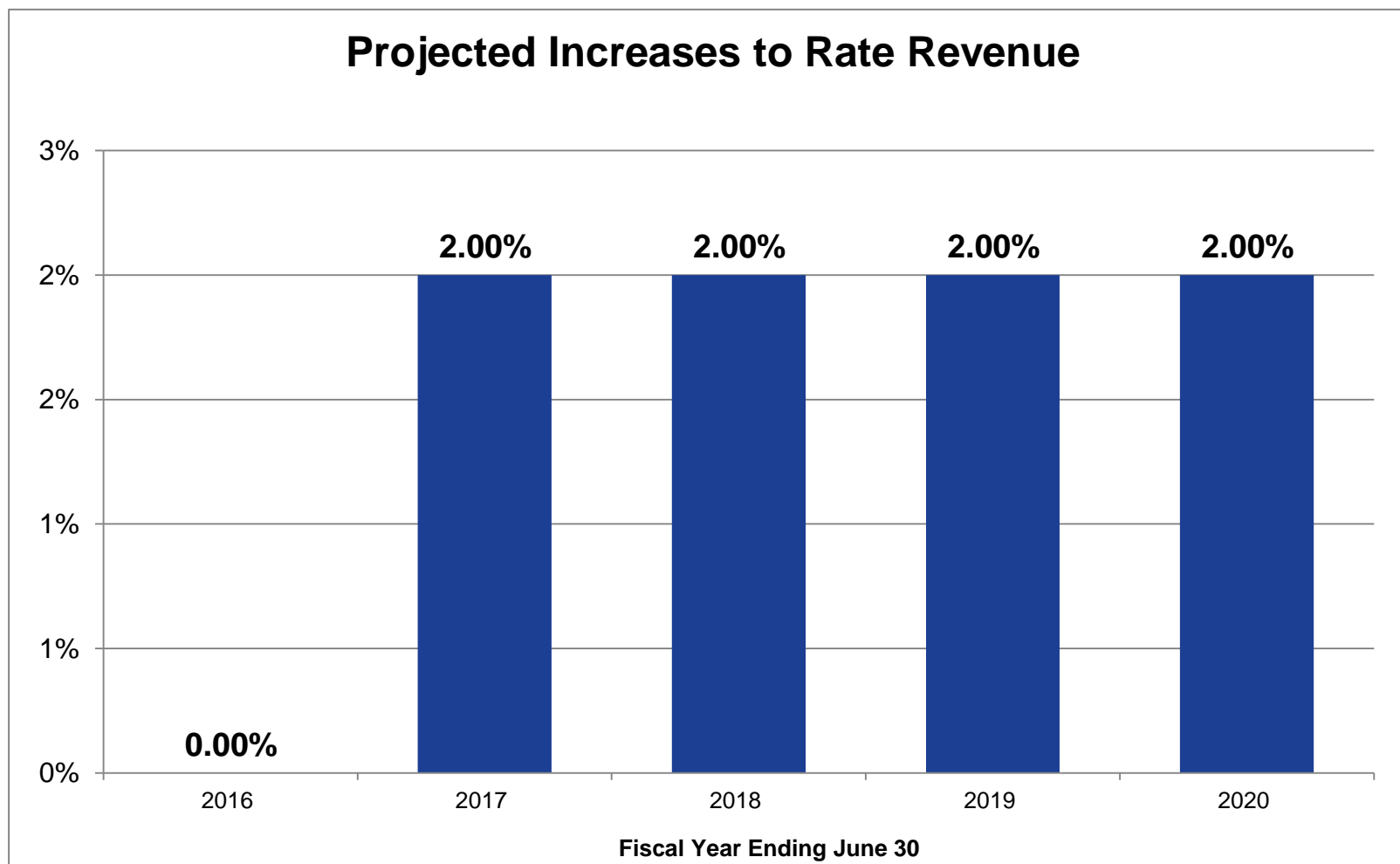
1. Total beginning cash is the sum of the cash balances in Funds 640, 641, 642, and 643, as of 07/01/2015; Cash Balances - Budget Pages.xls file provided by City Staff.  
The balance in Fund 643 of \$8,139,287 is revenue bond proceeds, therefore the beginning balance in this fund for purposes of this analysis is \$0.  
Use of bond proceeds is shown in Exhibit 2 (CIP) of this model.
2. The Sewer System Replacement reserve target is set to 3% of net assets.
3. Interest earnings for FY 2015/16 are projected in City budgets and are calculated thereafter.
4. Days cash on hand represents the number of days cash the City has available to cover operating expenses and debt service payments.
5. Impact fee revenue projections for FY 2015/16 - 2019/20 are from the following file: Cash Balances - Budget Pages.xls.
6. Historical interest earning rates were referenced on the California Treasurer's Office website for funds invested in LAIF. Future years earnings were conservatively estimated and phase into the historical 10 year average interest earnings rate.











REVENUE FORECAST <sup>1</sup>

SOURCES OF REVENUE	Basis	2016	2017	2018	2019	2020
<b>Sewer Operations Fund (640)</b>						
INTEREST INCOME <sup>2</sup>	See FP	\$ 23,456	\$ -	\$ -	\$ -	\$ -
SEWER SERVICE FEES <sup>2</sup>	1	\$ 9,921,864	\$10,090,078	\$10,291,880	\$10,497,718	\$10,707,672
FRONT FOOTAGE/OFFSITE	6	\$ 52,500	\$ 52,500	\$ 52,500	\$ 52,500	\$ 52,500
UB COLLECTIONS	6	\$ 1,803	\$ 1,857	\$ 1,912	\$ 1,970	\$ 2,029
LIFT STATION CHARGES	1	\$ 103,000	\$ 106,090	\$ 109,273	\$ 112,551	\$ 115,927
REIMBURSEMENT OF EXPENSES	6	\$ 2,060	\$ 2,122	\$ 2,185	\$ 2,251	\$ 2,319
UTILITY BILL DELINQ CHR	1	\$ 16,480	\$ 16,974	\$ 17,484	\$ 18,008	\$ 18,548
<b>Sewer Impact Fund (641)</b>						
DEVELOPMENT IMPACT FEES (AB1600) <sup>2</sup>	6	\$ 6,805,774	\$ 6,070,248	\$ 3,663,360	\$ 3,663,360	\$ 3,456,000
<b>Sewer Rate Stabilization Fund (642)</b>						
INTEREST INCOME <sup>2</sup>	See FP	\$ 6,227	\$ -	\$ -	\$ -	\$ -
<b>Sewer System Replacement Fund (643)</b>						
INTEREST INCOME <sup>2</sup>	See FP	\$ 17,938	\$ -	\$ -	\$ -	\$ -
<b>TOTAL: REVENUE</b>		<b>\$16,986,772</b>	<b>\$16,339,869</b>	<b>\$14,138,594</b>	<b>\$14,348,358</b>	<b>\$14,354,995</b>

REVENUE SUMMARY	2016	2017	2018	2019	2020
<b>Sewer Operations Fund (640)</b>					
SEWER RATE REVENUE	\$ 9,921,864	\$10,090,078	\$10,291,880	\$10,497,718	\$10,707,672
OTHER REVENUE	\$ 175,843	\$ 179,543	\$ 183,354	\$ 187,280	\$ 191,323
INTEREST INCOME	\$ 23,456	\$ -	\$ -	\$ -	\$ -
<b>Sewer Impact Fund (641)</b>					
IMPACT FEE REVENUE	\$ 6,805,774	\$ 6,070,248	\$ 3,663,360	\$ 3,663,360	\$ 3,456,000
INTEREST INCOME	\$ 35,671	\$ -	\$ -	\$ -	\$ -
<b>Sewer Rate Stabilization Fund (642)</b>					
INTEREST INCOME	\$ 6,227	\$ -	\$ -	\$ -	\$ -
<b>Sewer System Replacement Fund (643)</b>					
INTEREST INCOME	\$ 17,938	\$ -	\$ -	\$ -	\$ -
OTHER REVENUE	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TOTAL: REVENUE</b>	<b>\$16,986,772</b>	<b>\$16,339,869</b>	<b>\$14,138,594</b>	<b>\$14,348,358</b>	<b>\$14,354,995</b>

OPERATING EXPENSE FORECAST <sup>1</sup>:

SEWER OPERATIONS FUND, Operations	Basis	2016	2017	2018	2019	2020
<b>SALARIES</b>						
SALARIES - GENERAL	3	\$ 1,226,890	\$ 1,258,137	\$ 1,289,423	\$ 1,321,490	\$ 1,354,360
EARNED LEAVE LIABILITY	3	\$ 12,740	\$ 12,740	\$ 12,740	\$ 12,740	\$ 12,740
OVERTIME - GENERAL	3	\$ 25,750	\$ 26,523	\$ 27,318	\$ 28,138	\$ 28,982
RETIREMENT - GENERAL	3	\$ 218,926	\$ 232,026	\$ 242,308	\$ 253,620	\$ 264,669
DEFERRED COMPENSATION	3	\$ 24,538	\$ 25,163	\$ 25,788	\$ 26,430	\$ 27,087
GROUP INSURANCE	3	\$ 235,691	\$ 247,436	\$ 259,768	\$ 272,714	\$ 286,309
MEDICARE	3	\$ 18,204	\$ 18,668	\$ 19,133	\$ 19,610	\$ 20,099
INCOME PROTECTION INS	3	\$ 11,970	\$ 11,970	\$ 11,970	\$ 11,970	\$ 11,970
WORKERS COMP	3	\$ 61,983	\$ 38,402	\$ 39,360	\$ 40,343	\$ 41,350
BENEFITS	3	\$ 2,783	\$ 2,783	\$ 2,783	\$ 2,783	\$ 2,783
UNIFORM	3	\$ 7,426	\$ 7,649	\$ 7,879	\$ 8,115	\$ 8,358
<b>SUPPLIES</b>						
ELECTRIC	4	\$ 25,585	\$ 26,353	\$ 27,143	\$ 27,958	\$ 27,958
WATER/SEWER	2	\$ 1,977	\$ 2,016	\$ 2,057	\$ 2,098	\$ 2,098
TELEPHONE	2	\$ 9,364	\$ 9,551	\$ 9,742	\$ 9,937	\$ 9,937
GASOLINE & OIL	2	\$ 22,889	\$ 23,347	\$ 23,814	\$ 24,290	\$ 24,290
CONTRACT SERVICES	2	\$ 299,500	\$ 278,485	\$ 286,840	\$ 295,445	\$ 304,308
BANK CARD SERVICE FEES	2	\$ 31	\$ 32	\$ 33	\$ 34	\$ 35
RENTALS - OUTSIDE	2	\$ 2,601	\$ 2,653	\$ 2,706	\$ 2,760	\$ 2,760
STATIONERY & OFFICE SUPPLIES	2	\$ 5,202	\$ 5,306	\$ 5,412	\$ 5,520	\$ 5,520
COMPUTER HARDWARE-NON CAPITAL	2	\$ 8,323	\$ 8,490	\$ 8,659	\$ 8,833	\$ 8,833
COMPUTER SOFTWARE-NON CAPITAL	2	\$ 9,364	\$ 9,551	\$ 9,742	\$ 9,937	\$ 9,937
OTHER SUPPLIES	2	\$ 140,650	\$ 144,870	\$ 149,216	\$ 153,692	\$ 158,303
ADVERTISING	2	\$ 2,040	\$ 2,081	\$ 2,122	\$ 2,165	\$ 2,165
POSTAGE & FREIGHT	2	\$ 5,260	\$ 265	\$ 271	\$ 276	\$ 276
PRINTING	2	\$ 1,561	\$ 1,592	\$ 1,624	\$ 1,656	\$ 1,656
AUTO MILEAGE	2	\$ 153	\$ 156	\$ 159	\$ 162	\$ 162
SEWER CHRGS MAINT/OPS (SCRWA)	2	\$ 3,879,467	\$ 4,152,849	\$ 4,360,491	\$ 4,578,516	\$ 4,807,441
WATER/SEWER MAINTENANCE SVS	2	\$ 18,207	\$ 18,571	\$ 18,943	\$ 19,321	\$ 19,321
SMALL TOOLS	2	\$ 4,162	\$ 4,245	\$ 4,330	\$ 4,416	\$ 4,416
OTHER EXPENSE	2	\$ 7,500	\$ 7,725	\$ 7,957	\$ 8,195	\$ 8,441
TRAINING & EDUCATION	2	\$ 7,803	\$ 7,959	\$ 8,118	\$ 8,281	\$ 8,281
CONFERENCE & MEETINGS	2	\$ 780	\$ 796	\$ 812	\$ 828	\$ 828
MEMBERSHIP & DUES	2	\$ 5,514	\$ 5,624	\$ 5,737	\$ 5,852	\$ 5,852
SUBSCRIPTION & PUBLICATIONS	2	\$ 179	\$ 182	\$ 186	\$ 189	\$ 189
MAINT - MACHINE/EQUIPMENT	2	\$ 17,687	\$ 18,041	\$ 18,401	\$ 18,769	\$ 18,769
MAINT - AUTO/TRUCKS	2	\$ 31,212	\$ 31,836	\$ 32,473	\$ 33,122	\$ 33,122
<b>SUB-TOTAL: SEWER OPERATIONS FUND (640), Operations</b>		<b>\$ 6,353,912</b>	<b>\$ 6,644,072</b>	<b>\$ 6,925,457</b>	<b>\$ 7,220,205</b>	<b>\$ 7,523,605</b>

OPERATING EXPENSE FORECAST, continued <sup>1</sup> :

SEWER OPERATIONS FUND, Operations, continued	Basis	2016	2017	2018	2019	2020
<b>CAPITAL</b>						
MACHINERY/EQUIPMENT	2	\$ 51,000	\$ 52,020	\$ 53,060	\$ 54,122	\$ 55,746
COMPUTER EQUIPMENT	2	\$ 7,283	\$ 7,428	\$ 7,577	\$ 7,729	\$ 7,961
COMPUTER SOFTWARE	2	\$ 7,803	\$ 7,959	\$ 8,118	\$ 8,281	\$ 8,529
<b>DEBT</b>						
SERVICE FEES	2	\$ 3,713	\$ 3,825	\$ 3,939	\$ 4,057	\$ 4,179
<b>INTERNAL SERVICES</b>						
GENERAL LIABILITY INSURANCE	2	\$ 109,309	\$ 120,240	\$ 132,264	\$ 145,490	\$ 160,039
BUILDING MAINT - CURRENT SERVICES	2	\$ 27,053	\$ 27,865	\$ 28,701	\$ 29,562	\$ 30,448
BUILDING MAINT - FUTURE REPLACEMENT	2	\$ 1,332	\$ 1,372	\$ 1,413	\$ 1,456	\$ 1,499
FLEET REPLACEMENT	2	\$ 109,145	\$ 93,834	\$ 93,834	\$ 93,834	\$ 93,834
INFO SYSTEM SERVICES	2	\$ 26,558	\$ 27,355	\$ 28,175	\$ 29,021	\$ 29,891
GF ADMIN	2	\$ 194,051	\$ 200,843	\$ 207,872	\$ 215,148	\$ 222,678
<b>TRANSFERS</b>						
TRANSFER OUT-010 (GENERAL FUND)	2	\$ 249,195	\$ 250,671	\$ 252,191	\$ 253,757	\$ 255,369
TRANSFER OUT-232 (ENVIRONMENTAL PROGRAMS)	2	\$ 56,931	\$ 58,758	\$ 60,632	\$ 62,542	\$ 62,542
TRANSFER OUT-207 (GENL PLAN UPDATE)	2	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
TRANSFER OUT-650 (WATER OPS)	2	\$ 316,409	\$ 309,212	\$ 318,533	\$ 329,350	\$ 339,935
TRANSFER OUT - EMPLOYEE BENEFITS FUND	3	\$ 36,630	\$ 39,378	\$ 42,331	\$ 45,506	\$ 48,919
<b>SUB-TOTAL: SEWER OPERATIONS FUND (640), Operations EXPENSES</b>		<b>\$ 1,199,413</b>	<b>\$ 1,203,758</b>	<b>\$ 1,241,641</b>	<b>\$ 1,282,854</b>	<b>\$ 1,324,571</b>
<b>TOTAL: SEWER OPERATIONS FUND (640), Operations EXPENSES</b>		<b>\$ 7,553,325</b>	<b>\$ 7,847,830</b>	<b>\$ 8,167,097</b>	<b>\$ 8,503,059</b>	<b>\$ 8,848,177</b>

OPERATING EXPENSE FORECAST, continued <sup>1</sup> :

SEWER IMPACT FUND	Basis	2016	2017	2018	2019	2020
<b>SUPPLIES</b>						
CONTRACT SERVICES	2	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,194
BANK CARD SERVICE FEES	2	\$ 10,786	\$ 11,109	\$ 11,443	\$ 11,786	\$ 12,140
OTHER EXPENSE	2	\$ -	\$ -	\$ -	\$ -	\$ -
<b>INTERNAL SERVICES</b>						
GF ADMIN	2	\$ 12,652	\$ 13,095	\$ 13,553	\$ 14,027	\$ 14,518
<b>TRANSFERS</b>						
TRANSFER OUT-207 (GENL PLAN UPDATE)	2	\$ 2,814	\$ 2,814	\$ 2,814	\$ 2,814	\$ 2,814
<b>TOTAL: SEWER IMPACT FUND (641) EXPENSES</b>		<b>\$ 27,313</b>	<b>\$ 28,111</b>	<b>\$ 28,935</b>	<b>\$ 29,787</b>	<b>\$ 30,666</b>

**OPERATING EXPENSE FORECAST, continued <sup>1</sup> :**

<b>SEWER RATE STABILIZATION FUND</b>	<b>Basis</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>SUPPLIES</b>						
CONTRACT SERVICES	2	\$ 106	\$ 109	\$ 113	\$ 116	\$ 119
<b>INTERNAL SERVICES</b>						
GF ADMIN	2	\$ 3,537	\$ 3,661	\$ 3,789	\$ 3,922	\$ 4,059
<b>TOTAL: SEWER RATE STABILIZATION FUND (642) EXPENSES</b>		<b>\$ 3,643</b>	<b>\$ 3,770</b>	<b>\$ 3,902</b>	<b>\$ 4,038</b>	<b>\$ 4,179</b>

**OPERATING EXPENSE FORECAST, continued <sup>1</sup> :**

<b>SEWER SYSTEM REPLACEMENT FUND</b>	<b>Basis</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>SUPPLIES</b>						
CONTRACT SERVICES	2	\$ 106	\$ 109	\$ 113	\$ 116	\$ 119
<b>DEBT</b>						
SERVICE FEES	2	\$ 2,500	\$ 2,575	\$ 2,652	\$ 2,732	\$ 2,814
<b>INTERNAL SERVICES</b>						
GF ADMIN	2	\$ 3,897	\$ 4,033	\$ 4,175	\$ 4,321	\$ 4,472
<b>TRANSFERS</b>						
TRANSFER OUT-207 (GENL PLAN UPDATE)	6	\$ 2,814	\$ 2,814	\$ 2,814	\$ 2,814	\$ 2,814
<b>TOTAL: SEWER SYSTEM REPLACEMENT FUND (643) EXPENSES</b>		<b>\$ 9,317</b>	<b>\$ 9,532</b>	<b>\$ 9,753</b>	<b>\$ 9,983</b>	<b>\$ 10,219</b>
<b>Grand Total: Operating Expenses</b>		<b>\$ 7,593,599</b>	<b>\$ 7,889,243</b>	<b>\$ 8,209,688</b>	<b>\$ 8,546,866</b>	<b>\$ 8,893,240</b>

Excluded from Analysis <sup>4</sup>:

Revenues:	Basis	2016	2017	2018	2019	2020
<b>Sewer System Replacement Fund</b>						
TRANSFER FROM-640 (SEWER OPS)	6	\$ 588,654	\$ 588,654	\$ 588,654	\$ 588,654	\$ 588,654
<b>Total Revenue Excluded from Analysis:</b>		<b>\$ 588,654</b>	<b>\$ 588,654</b>	<b>\$ 588,654</b>	<b>\$ 588,654</b>	<b>\$ 588,654</b>
Expenses:	Basis	2016	2017	2018	2019	2020
<b>Sewer Operations Fund</b>						
<b>Operations</b>						
<b>DEBT</b>						
PRINCIPAL	6	\$ 1,320,000	\$ 1,375,000	\$ 1,430,000	\$ 1,495,000	\$ 1,560,000
INTEREST	6	\$ 331,462	\$ 295,686	\$ 258,403	\$ 217,014	\$ 172,505
<b>TRANSFERS</b>						
TRANSFER OUT-643 (SEWER CIP)	6	\$ 588,654	\$ 588,654	\$ 588,654	\$ 588,654	\$ 588,654
<b>Sewer Impact Fund</b>						
<b>DEBT</b>						
INTEREST	6	\$ 152,001	\$ 135,595	\$ 118,497	\$ 99,517	\$ 79,107
<b>PROJECTS</b>						
CONSTRUCTION <sup>3</sup>	2	\$11,921,000	\$ 4,666,000	\$ 8,128,000	\$ 6,982,000	\$ 2,900,000
<b>Sewer System Replacement Fund</b>						
<b>DEBT</b>						
PRINCIPAL	6	\$ 588,654	\$ 588,654	\$ 588,654	\$ 588,654	\$ 588,654
<b>PROJECTS</b>						
CONSTRUCTION <sup>3</sup>	2	\$ 2,271,000	\$ 3,057,000	\$ 2,696,000	\$ 77,000	\$ 80,000
<b>Total Expenses Excluded from Analysis:</b>		<b>\$17,172,771</b>	<b>\$10,706,589</b>	<b>\$13,808,208</b>	<b>\$10,047,839</b>	<b>\$ 5,968,919</b>

FORECASTING ASSUMPTIONS:

INFLATION FACTORS	2016	2017	2018	2019	2020
1 Customer Growth (5)	-	2.00%	2.00%	2.00%	2.00%
2 General Cost Inflation	-	3.00%	3.00%	3.00%	3.00%
3 Labor Cost Inflation .	-	5.00%	5.00%	5.00%	5.00%
4 Energy Cost Inflation	-	4.00%	4.00%	4.00%	4.00%
5 Other Cost Inflation	-	2.00%	2.00%	2.00%	2.00%
6 No Escalation	-	0.00%	0.00%	0.00%	0.00%

1. Data source for the FY 2015/16 adopted budget is from the following file: Operating Budget FY 2013-14 to FY 2015-16.xls. Budget data for FY 2016/17 - FY 2017/18 Inflationary factors are applied to project revenue and expenses in all future years.
2. All revenues were projected through FY 2019/20 by the City; for the purpose of this analysis, NBS is using the City's projections for all revenues except internal transfers and interest earnings. NBS is using a revised FY 2015/16 - 2019/20 rate revenue projection (provided by City Staff in file: Revenues Projection Without Rate Increases.xlsx) and inflating by the projected customer growth rate thereafter. Interest earnings beyond 2015/16 and internal transfers are calculated in the Financial Plan and Reserve Fund Summary of this model.
3. Construction expenses are excluded from this analysis and are handled in Exhibit 2 (CIP).
4. The following revenues and expenses have been excluded from this analysis since they do not represent actual cash expenses, or are handled in the model elsewhere (i.e. Debt is on Exhibit 3)
5. Customer growth is calculated based on source: Projected Growth Rates.pdf.

CITY OF MORGAN HILL  
WASTEWATER RATE STUDY  
Capital Improvement Plan Expenditures  
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EXHIBIT 2

CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST		Budget	Projected			
Funding Sources:		FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
Grants		\$ -	\$ -	\$ -	\$ -	\$ -
Use of Impact Fee Reserves (Fund 641)		\$ 11,921,000	\$ 4,830,243	\$ 8,710,282	\$ 6,429,512	\$ 3,330,712
Use of Impact Fee Revenue (TBD)		\$ -	\$ -	\$ -	\$ 1,316,045	\$ 5,802,756
Use of SRF Loan Funding		\$ -	\$ -	\$ -	\$ -	\$ -
Use of New Revenue Bond Proceeds		\$ -	\$ -	\$ -	\$ -	\$ -
Use of 2015 Revenue Bonds <sup>1</sup>		\$ 2,246,000	\$ 3,197,287	\$ 2,696,000	\$ -	\$ -
Use of Sewer System Replacement Reserve (Fund 643)		\$ -	\$ -	\$ 193,139	\$ 1,253,578	\$ 1,641,702
Rate Revenue		\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Sources of Capital Funds</b>		<b>\$ 14,167,000</b>	<b>\$ 8,027,530</b>	<b>\$ 11,599,421</b>	<b>\$ 8,999,134</b>	<b>\$ 10,775,169</b>
<b>Uses of Capital Funds:</b>						
Total Project Costs		\$ 14,167,000	\$ 7,994,850	\$ 11,599,421	\$ 8,999,134	\$ 10,775,169
<b>Capital Funding Surplus (Deficiency)</b>		<b>\$ -</b>	<b>\$ 32,681</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>New SRF Loan Funding</b>		<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>New Revenue Bond Proceeds</b>		<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

CAPITAL IMPROVEMENT PROGRAM

Capital Improvement Program Costs (in Current-Year Dollars) (3):

Project Description	Fund	2016	2017	2018	2019	2020
302000 Sanitary Sewer Rehabilitation - Replacement Funded	643	\$ 548,000	\$ 605,000	\$ 1,719,000	\$ 850,000	\$ 1,100,000
302000 Sanitary Sewer Rehabilitation - Impact Funded	641	\$ 182,000	\$ -	\$ 1,818,000	\$ -	\$ -
303A11 Sewer Plant Expansion Project - Impact Funded	641	\$ 1,328,000	\$ 693,000	\$ 1,279,000	\$ 4,452,000	\$ 5,053,140
303A11 Sewer Plant Improvement - Replacement Funded	643	\$ -	\$ 550,000	\$ 80,000	\$ 80,000	\$ 79,543
303A11 Sewer Plant Improvement - Impact Funded	641	\$ 8,525,000	\$ 633,000	\$ -	\$ -	\$ -
304000 Lift Station Rehabilitation -Replacement Funded	643	\$ 1,298,000	\$ 932,000	\$ 672,000	\$ 200,000	\$ 250,000
304000 Lift Station Rehabilitation -Impact Funded	641	\$ -	\$ 108,000	\$ 1,025,000	\$ -	\$ -
308A08 New Trunk Line - Replacement Funded	643	\$ -	\$ 348,000	\$ 225,000	\$ -	\$ -
308A08 New Trunk Line - Impact Funded	641	\$ 1,886,000	\$ 3,024,000	\$ 2,937,000	\$ 2,530,000	\$ 2,900,000
315006 New Sewer Mains - Replacement Funded	643	\$ -	\$ 622,000	\$ -	\$ -	\$ -
315006 New Sewer Mains - Impact Funded	641	\$ -	\$ 208,000	\$ 1,069,000	\$ -	\$ -
-- New Lift Station - Impact Funded	641	\$ -	\$ -	\$ -	\$ -	\$ -
623014 Recycled Water MP / Supplemental Study <sup>4</sup>	643	\$ 400,000	\$ -	\$ -	\$ -	\$ -
-- Estimated Future Projects <sup>5</sup>	643	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total: Capital Improvement Program Costs (Current-Year Dollars)</b>		<b>\$ 14,167,000</b>	<b>\$ 7,723,000</b>	<b>\$ 10,824,000</b>	<b>\$ 8,112,000</b>	<b>\$ 9,382,683</b>
<b>Total: CIP Costs (Current Year) Paid with Impact Fees, Fund</b>	641	<b>\$ 11,921,000</b>	<b>\$ 4,666,000</b>	<b>\$ 8,128,000</b>	<b>\$ 6,982,000</b>	<b>\$ 7,953,140</b>
<b>Total: CIP Costs (Current Year) Paid with Replacement, Fund</b>	643	<b>\$ 2,246,000</b>	<b>\$ 3,057,000</b>	<b>\$ 2,696,000</b>	<b>\$ 1,130,000</b>	<b>\$ 1,429,543</b>

**CITY OF MORGAN HILL**  
**WASTEWATER RATE STUDY**  
**Capital Improvement Plan Expenditures**  
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**EXHIBIT 2**

**Capital Improvement Program Costs** (in Future-Year Dollars) <sup>6</sup> :

Project Description	Fund	2016	2017	2018	2019	2020
302000 Sanitary Sewer Rehabilitation - Replacement Funded	643	\$ 548,000	\$ 626,296	\$ 1,842,148	\$ 942,957	\$ 1,263,251
302000 Sanitary Sewer Rehabilitation - Impact Funded	641	\$ 182,000	\$ -	\$ 1,948,240	\$ -	\$ -
303A11 Sewer Plant Expansion Project - Impact Funded	641	\$ 1,328,000	\$ 717,394	\$ 1,370,626	\$ 4,938,874	\$ 5,803,078
303A11 Sewer Plant Improvement - Replacement Funded	643	\$ -	\$ 569,360	\$ 85,731	\$ 88,749	\$ 91,348
303A11 Sewer Plant Improvement - Impact Funded	641	\$ 8,525,000	\$ 655,282	\$ -	\$ -	\$ -
304000 Lift Station Rehabilitation -Replacement Funded	643	\$ 1,298,000	\$ 964,806	\$ 720,141	\$ 221,872	\$ 287,103
304000 Lift Station Rehabilitation -Impact Funded	641	\$ -	\$ 111,802	\$ 1,098,430	\$ -	\$ -
308A08 New Trunk Line - Replacement Funded	643	\$ -	\$ 360,250	\$ 241,119	\$ -	\$ -
308A08 New Trunk Line - Impact Funded	641	\$ 1,886,000	\$ 3,130,445	\$ 3,147,404	\$ 2,806,683	\$ 3,330,390
315006 New Sewer Mains - Replacement Funded	643	\$ -	\$ 643,894	\$ -	\$ -	\$ -
315006 New Sewer Mains - Impact Funded	641	\$ -	\$ 215,322	\$ 1,145,582	\$ -	\$ -
-- New Lift Station - Impact Funded	641	\$ -	\$ -	\$ -	\$ -	\$ -
623014 Recycled Water MP / Supplemental Study 4	643	\$ 400,000	\$ -	\$ -	\$ -	\$ -
-- Estimated Future Projects <sup>4</sup>	643	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total: Capital Improvement Program Costs (Future-Year Dollars)</b>		<b>\$ 14,167,000</b>	<b>\$ 7,994,850</b>	<b>\$ 11,599,421</b>	<b>\$ 8,999,134</b>	<b>\$ 10,775,169</b>

<b>Total: CIP Costs (Current Year) Paid with Impact Fee Fund 64</b>	641	<b>\$ 11,921,000</b>	<b>\$ 4,830,243</b>	<b>\$ 8,710,282</b>	<b>\$ 7,745,557</b>	<b>\$ 9,133,467</b>
<b>Total: CIP Costs (Current Year) Paid with Replacement Fund 643</b>	643	<b>\$ 2,246,000</b>	<b>\$ 3,164,606</b>	<b>\$ 2,889,139</b>	<b>\$ 1,253,578</b>	<b>\$ 1,641,702</b>
<b>84%</b>						

**FORECASTING ASSUMPTIONS:**

Economic Variables	2016	2017	2018	2019	2020
Annual Construction Cost Inflation, Per Engineering News Record <sup>7</sup>	0.00%	3.52%	3.52%	3.52%	3.52%
Cumulative Construction Cost Multiplier from 2016	1.00	1.04	1.07	1.11	1.15

1. Use of 2015 Revenue Bond Proceeds is identified in the Bond document provided by City staff; file: Bond Document- Morgan Hill Sewer Series 2015.pdf.
2. The City has Bond funding that will be used for projects listed in FY 2015/16; therefore this years expenditures are not reduced by the listed percentage.
3. Capital Improvement Program projects were provided via email July 10, 2015  
file: CIP 10-Year Water and Sewer.xlsx.
4. This project was noted as Water Utility project, however funding is from the Sewer System Replacement Fund, therefore in the Sewer CIP  
file: CIP 10-Year Water and Sewer.xlsx.
5. For purposes of this analysis, NBS has estimated future expenditures at \$1.8 million annually, in order to show some level of capital expenditures in the future.  
This estimate should be confirmed/updated by the City.
6. Project costs are inflated by 3.62% per year, Engineering News Record estimates of construction cost inflation.
7. For reference purposes, the annual Construction Cost Inflation percentage is the 10 year average change in the Construction Cost Index for for January 2005 to January 2015. Source: Engineering News Record website (<http://enr.construction.com>).



**CITY OF MORGAN HILL**  
**WASTEWATER RATE STUDY**  
**Debt Service**  
**Draft Copy - Subject to Revision**

<b>EXISTING DEBT OBLIGATIONS</b>	<b>Budget</b>	<b>Projected</b>			
<b>Annual Repayment Schedules:</b>	<b>FY 2015/16</b>	<b>FY 2016/17</b>	<b>FY 2017/18</b>	<b>FY 2018/19</b>	<b>FY 2019/20</b>
Sewer Revenue Bonds - 2015 - \$15,690,000 <sup>1</sup>					
Principal Payment	\$ -	\$ 1,260,000	\$ 1,315,000	\$ 1,375,000	\$ 1,445,000
Interest Payment	\$ 528,074	\$ 676,300	\$ 624,800	\$ 564,125	\$ 493,625
<b>Subtotal: Annual Debt Service</b>	<b>\$ 528,074</b>	<b>\$ 1,936,300</b>	<b>\$ 1,939,800</b>	<b>\$ 1,939,125</b>	<b>\$ 1,938,625</b>
Coverage Requirement (\$-Amnt above annual payment) <sup>2</sup>	125%	125%	125%	125%	125%
<b>Grand Total: Existing Annual Debt Service</b>	<b>\$ 528,074</b>	<b>\$ 1,936,300</b>	<b>\$ 1,939,800</b>	<b>\$ 1,939,125</b>	<b>\$ 1,938,625</b>
<b>Allocation of Debt Service Payments to Funding Sources <sup>4</sup></b>					
<b>Fund 640 &amp; 643 (Rate Funded)</b>	<b>\$ 502,299</b>	<b>\$ 1,841,791</b>	<b>\$ 1,845,120</b>	<b>\$ 1,844,478</b>	<b>\$ 1,844,003</b>
<b>Fund 641 - (Impact Fee Funded)</b>	<b>\$ 25,775</b>	<b>\$ 94,509</b>	<b>\$ 94,680</b>	<b>\$ 94,647</b>	<b>\$ 94,622</b>

1. The 2015 Sewer Bonds refunded the 2002 Bonds. File: Bond Document- Morgan Hill Sewer Series 2015.pdf
2. The Coverage Requirement for the 2015 Sewer Bonds is at least equal to 125% of the Maximum Annual Debt Service, taking into account all Parity Debt (Official Statement, page 19).
3. There is no Reserve Requirement for the 2015 Sewer Bonds (Official Statement, page 19).
4. Per the City's adopted FY 2015/16 budget, the debt service payment on the 2015 Sewer Revenue Bonds is split as follows: 5% to the Sewer Impact Fund (641) 71% to the operations fund and 25% to the Sewer System Replacement Fund (643) (average allocations used for FY 2015/16 - 2019/20 budget).

**NEW DEBT FINANCING ASSUMPTIONS:**

<b>Long-Term Debt Terms</b>	<b>State Revolving Fund Loan</b>	<b>Revenue Bonds</b>
Issuance Cost	0.00%	2.00%
Annual Interest Cost (%)	3.00%	5.50%
Term	30	30
Debt Reserve Funded?	Yes	Yes
Coverage Requirement (% above annual pmt)	0.20	0.25

<b>NEW DEBT OBLIGATIONS</b>	<b>Budget</b>	<b>Projected</b>			
<b>Annual Repayment Schedules</b>	<b>FY 2015/16</b>	<b>FY 2016/17</b>	<b>FY 2017/18</b>	<b>FY 2018/19</b>	<b>FY 2019/20</b>
<b>SRF Loan Funding</b>					
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	-	-	-	-	-
<b>Subtotal: Annual Debt Service</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Revenue Bonds</b>					
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	-	-	-	-	-
<b>Subtotal: Annual Debt Service</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Grand Total: New Annual Debt Service</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Grand Total: New Annual Coverage Requirement</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Grand Total: New Bond Debt Reserve Target</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Grand Total: New SRF Loan Debt Reserve Target</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

**TOTAL DEBT SERVICE:**

<b>Annual Obligations</b>	<b>FY 2015/16</b>	<b>FY 2016/17</b>	<b>FY 2017/18</b>	<b>FY 2018/19</b>	<b>FY 2019/20</b>
Annual Debt Service	\$ 528,074	\$ 1,936,300	\$ 1,939,800	\$ 1,939,125	\$ 1,938,625
Annual Coverage Requirement	1.25	1.25	1.25	1.25	1.25
Total Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ -

**CITY OF MORGAN HILL**  
**WASTEWATER RATE STUDY**  
**Projected Water Rates Under Existing Rate Schedule**  
**Draft Copy - Subject to Revision**

**EXHIBIT 4**

Existing Sewer Rate Schedule		Current Adopted Rates	
		As of 1/1/15	As of 1/1/16
<i>Adopted Rate Increase</i>		3.50%	3.50%
<b>Fixed Monthly Charge</b>			
<b>Service Charge:</b>			
Residential (5/8-1 inch meters)		\$18.54	\$19.19
All Other Customers:			
5/8 inch		\$18.54	\$19.19
3/4 inch		\$18.54	\$19.19
1 inch		\$35.28	\$36.52
1.5 inch		\$69.38	\$71.81
2 inch		\$110.47	\$114.34
3 inch		\$240.66	\$249.08
4 inch		\$432.27	\$447.40
6 inch		\$959.45	\$993.03
8 inch		\$1,482.18	\$1,534.06
10 inch		\$1,852.73	\$1,917.57
<b>Variable Consumption Charge (per hcf)</b>			
<u>Residential:</u>			
Residential - all units		\$3.93	\$4.06
<u>Commercial:</u>			
Churches/schools	Commercial 1	\$3.76	\$3.89
Membership organizations	Commercial 1	\$3.76	\$3.89
Governments	Commercial 1	\$3.76	\$3.89
Car wash & laundromats	Commercial 2	\$4.40	\$4.56
Barber & beauty shops	Commercial 2	\$4.40	\$4.56
Department stores, retail stores & general commercial	Commercial 2	\$4.40	\$4.56
Medical offices	Commercial 2	\$4.40	\$4.56
Warehouses	Commercial 2	\$4.40	\$4.56
Hospitals & convalescent	Commercial 2	\$4.40	\$4.56
Hotels w/o dining	Commercial 3	\$5.35	\$5.54
Auto repair/sales/service	Commercial 3	\$5.35	\$5.54
Shopping centers	Commercial 3	\$5.35	\$5.54
Bars w/o dining	Commercial 3	\$5.35	\$5.54
Nurseries	Commercial 3	\$5.35	\$5.54
RV parks	Commercial 3	\$5.35	\$5.54
Movie theatres	Commercial 3	\$5.35	\$5.54
Photo finishers/printers	Commercial 3	\$5.35	\$5.54
Laundry/dry cleaning	Commercial 3	\$5.35	\$5.54
Light industry	Commercial 4	\$6.07	\$6.29
Convenience/liquor with deli	Commercial 5	\$7.21	\$7.46
Lumber yards	Commercial 5	\$7.21	\$7.46
Industrial laundry	Commercial 5	\$7.21	\$7.46
Bakeries	Commercial 6	\$12.03	\$12.45
Food processors	Commercial 6	\$12.03	\$12.45
Restaurants & bars with food	Commercial 6	\$12.03	\$12.45
Groceries	Commercial 6	\$12.03	\$12.45
Mortuaries	Commercial 6	\$12.03	\$12.45
Auto repair w/steam	Commercial 6	\$12.03	\$12.45

CITY OF MORGAN HILL  
WASTEWATER RATE STUDY  
Wastewater Rate Analysis  
Draft Copy - Subject to Revision

Current vs. Proposed Sewer Rates:

Sewer Rate Schedule	Current Rates	Proposed Rates with 2% Annual Increase (with Zonal Charge) <sup>1</sup>				
		FY 2015/16 <sup>2</sup>	FY 2016/17 <sup>3</sup>	FY 2017/18	FY 2018/19	FY 2019/20
		0.00%	1.00%	1.00%	1.00%	1.00%
Monthly Fixed Charges:						
Residential (5/8-1 inch meters)	\$18.54	\$18.54	\$18.73	\$18.91	\$19.10	\$19.29
All Other Customers:						
5/8 inch	\$18.54	\$18.54	\$18.73	\$18.91	\$19.10	\$19.29
3/4 inch	\$18.54	\$18.54	\$18.73	\$18.91	\$19.10	\$19.29
1 inch <sup>4</sup>	\$18.54	\$18.54	\$18.73	\$18.91	\$19.10	\$19.29
1.5 inch	\$69.38	\$69.38	\$70.07	\$70.77	\$71.48	\$72.20
2 inch	\$110.47	\$110.47	\$111.57	\$112.69	\$113.82	\$114.96
3 inch	\$240.66	\$240.66	\$243.07	\$245.50	\$247.95	\$250.43
4 inch	\$432.27	\$432.27	\$436.59	\$440.96	\$445.37	\$449.82
6 inch	\$959.45	\$959.45	\$969.04	\$978.73	\$988.52	\$998.41
8 inch	\$1,482.18	\$1,482.18	\$1,497.00	\$1,511.97	\$1,527.09	\$1,542.36
10 inch	\$1,852.73	\$1,852.73	\$1,871.26	\$1,889.97	\$1,908.87	\$1,927.96
Volumetric Charges:						
Single-Family (Applied to <u>Avg. Winter</u> Water Use)	\$3.93	\$3.93	\$3.97	\$4.01	\$4.05	\$4.09
Multi-Family (Applied to <u>Avg. Winter</u> Water Use)	\$3.93	\$3.93	\$3.97	\$4.01	\$4.05	\$4.09
Commercial Charge (Applied to <u>Monthly</u> Water Use):						
Commercial 1	\$3.76	\$3.76	\$3.80	\$3.84	\$3.87	\$3.91
Commercial 2	\$4.40	\$4.40	\$4.44	\$4.49	\$4.53	\$4.58
Commercial 3	\$5.35	\$5.35	\$5.40	\$5.46	\$5.51	\$5.57
Commercial 4	\$6.07	\$6.07	\$6.13	\$6.19	\$6.25	\$6.32
Commercial 5	\$7.21	\$7.21	\$7.28	\$7.35	\$7.43	\$7.50
Commercial 6	\$12.03	\$12.03	\$12.15	\$12.27	\$12.39	\$12.52

1. A 2% increase in rate revenue is achieved with a 1% increase on general sewer rates and an additional 1% collected from the new zonal surcharge.

2. A 3.5% rate increase effective January 1, 2016 was approved and adopted in a prior Proposition 218 process. Under this rate alternative, the City is not implementing these rates.

3. The first rate adjustment will be effective on January 1, 2017 and all subsequent increases will be effective on January 1st of each year thereafter.

4. The 1 inch commercial meter fixed charge is the set equal to the residential 1 inch meter charge.

CITY OF MORGAN HILL  
WASTEWATER RATE STUDY  
Wastewater Customer Statistics  
Draft Copy - Subject to Revision

Volume Statistics					
Customer Class	FY 2014/15 Avg. WINTER Water Use (hcf/mo. ) <sup>1</sup>	FY 2014/15 Annual Water Consumption (hcf) <sup>1</sup>	Estimated Annual Volume (hcf/yr.) <sup>2</sup>	Estimated Volume - % Annual Conservation (hcf/yr.)	Percent of Annual Volume
Single Family	76,044	N/A	912,526	912,526	61.6%
Multi Family	23,173	N/A	278,077	278,077	18.8%
Commercial 1	N/A	27,224	27,224	27,224	1.8%
Commercial 2	N/A	83,550	83,550	83,550	5.6%
Commercial 3	N/A	63,410	63,410	63,410	4.3%
Commercial 4	N/A	23,325	23,325	23,325	1.6%
Commercial 5	N/A	20,624	20,624	20,624	1.4%
Commercial 6	N/A	72,541	72,541	72,541	4.9%
<b>Total</b>	<b>99,217</b>	<b>290,674</b>	<b>1,481,278</b>	<b>1,481,278</b>	<b>100.0%</b>

1. Consumption data source: Billed Consumption Report by Month spreadsheets.

2. Estimated annual volume is based on average winter water consumption for SFR and MFR Water customers, and is equal to the annual water consumption for commercial customers.

Conservation Adjustment Factor (Winter conservation should be less than summer)	0.0%
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Customer Statistics by Customer Class				
Customer Class	Number of Accounts <sup>1</sup>	Percent of Total Accounts	Number of Billing Units <sup>2</sup>	Percent of Total Billing Units
Single Family	9,162	76.9%	9,162	64.2%
Multi Family	1,988	16.7%	4,336	30.4%
Commercial 1	81	0.7%	81	0.6%
Commercial 2	385	3.2%	385	2.7%
Commercial 3	80	0.7%	80	0.6%
Commercial 4	96	0.8%	96	0.7%
Commercial 5	20	0.2%	20	0.1%
Commercial 6	98	0.8%	98	0.7%
Commercial Fixed Only	2	0.0%	2	0.0%
<b>Total</b>	<b>11,912</b>	<b>100.0%</b>	<b>14,260</b>	<b>100.0%</b>

1. Number of accounts is from the Billed Consumption Report by Month spreadsheets (Month of July).

2. Billing units provided by City staff in file: Multiple Unit Report.xlsx Actual number of accounts used for Commercial accounts.

**CITY OF MORGAN HILL**  
**WASTEWATER RATE STUDY**  
**Wastewater Customer Statistics**  
**Draft Copy - Subject to Revision**

Customer Statistics by Meter Size									
Number of Accounts by Customer Class and Meter Size <sup>1</sup>	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	Total
Single Family	534	1,200	7,356	58	14	0	0	0	9,162
Multi Family	852	218	851	27	31	0	6	3	1,988
Commercial 1	5	9	24	9	24	0	10	0	81
Commercial 2	18	37	179	60	86	2	2	1	385
Commercial 3	7	8	30	10	20	2	3	0	80
Commercial 4	0	5	18	25	42	3	3	0	96
Commercial 5	2	2	8	3	5	0	0	0	20
Commercial 6	13	8	34	19	22	0	2	0	98
Commercial Fixed Only	0	0	2	0	0	0	0	0	2
<b>Total</b>	<b>1,431</b>	<b>1,487</b>	<b>8,502</b>	<b>211</b>	<b>244</b>	<b>7</b>	<b>26</b>	<b>4</b>	<b>11,912</b>

1. Per City's Billing Data as of June 2015.

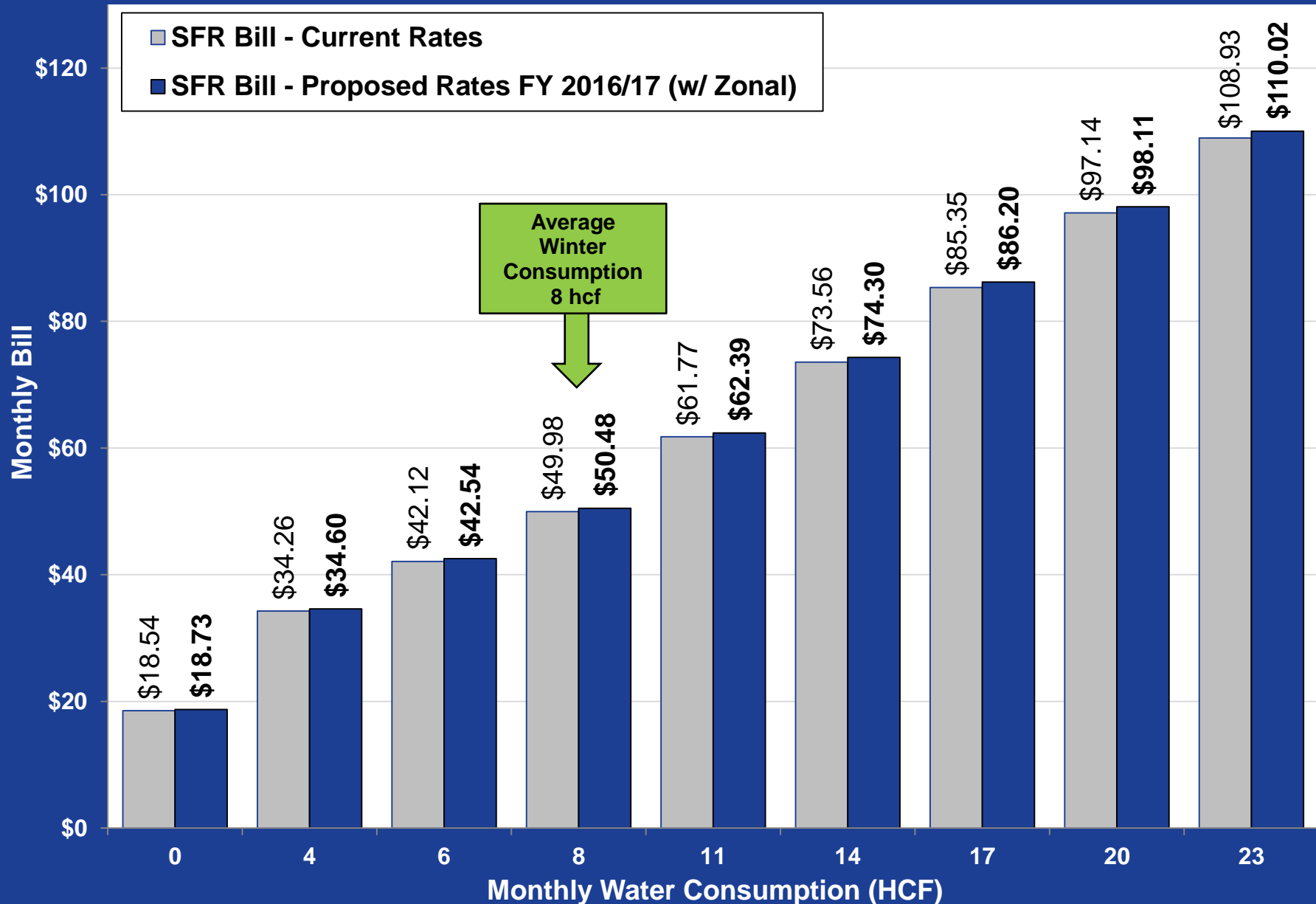
CITY OF MORGAN HILL  
WASTEWATER RATE STUDY  
Wastewater Rate Analysis  
Draft Copy - Subject to Revision

Customer Class	Adjusted Annual Volume Total (hcf)	Proposed Rates with 2% Annual Increase (with Zonal Charge)				
		FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
Single Family	912,526	\$ 3,586,229	\$ 3,604,160	\$ 3,640,201	\$ 3,676,603	\$ 3,713,369
Multi Family	278,077	1,092,844	1,098,308	1,109,291	1,120,384	1,131,588
Commercial 1	27,224	102,362	102,874	103,903	104,942	105,991
Commercial 2	83,550	367,620	369,458	373,153	376,884	380,653
Commercial 3	63,410	339,244	340,940	344,349	347,793	351,271
Commercial 4	23,325	141,583	142,291	143,714	145,151	146,602
Commercial 5	20,624	148,699	149,443	150,937	152,446	153,971
Commercial 6	72,541	872,668	877,032	885,802	894,660	903,607
Zonal Charge Revenue	-	119,550	239,100	239,100	239,100	239,100
<b>Total Revenue from Variable Charges</b>	<b>1,481,278</b>	<b>\$ 6,770,799</b>	<b>\$ 6,923,605</b>	<b>\$ 6,990,450</b>	<b>\$ 7,057,963</b>	<b>\$ 7,126,152</b>

Meter Size	# Meters by Size	Proposed Rates with 2% Annual Increase (with Zonal Charge)				
		FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
Residential (5/8-1 inch meters)	11,011	\$ 2,449,727	\$ 2,461,976	\$ 2,486,596	\$ 2,511,462	\$ 2,536,576
All Other Customers:						
5/8 inch	45	\$ 10,012	\$ 10,062	\$ 10,162	\$ 10,264	\$ 10,367
3/4 inch	69	\$ 15,351	\$ 15,428	\$ 15,582	\$ 15,738	\$ 15,895
1 inch	295	\$ 65,632	\$ 65,960	\$ 66,619	\$ 67,286	\$ 67,958
1.5 inch	211	\$ 175,670	\$ 176,549	\$ 178,314	\$ 180,097	\$ 181,898
2 inch	244	\$ 323,456	\$ 325,073	\$ 328,324	\$ 331,607	\$ 334,923
3 inch	7	\$ 20,215	\$ 20,317	\$ 20,520	\$ 20,725	\$ 20,932
4 inch	26	\$ 134,868	\$ 135,543	\$ 136,898	\$ 138,267	\$ 139,650
6 inch	4	\$ 46,054	\$ 46,284	\$ 46,747	\$ 47,214	\$ 47,686
<b>Total Revenue from Fixed Charges</b>	<b>11,912</b>	<b>\$ 3,240,985</b>	<b>\$ 3,257,190</b>	<b>\$ 3,289,762</b>	<b>\$ 3,322,660</b>	<b>\$ 3,355,886</b>
<b>Total Estimated Rate Revenue (w/o customer growth)</b>		<b>\$ 10,011,784</b>	<b>\$ 10,180,795</b>	<b>\$ 10,280,212</b>	<b>\$ 10,380,623</b>	<b>\$ 10,482,038</b>
<i>Estimated Customer Growth %</i>		-	2.00%	2.00%	2.00%	2.00%
<b>Total Estimated Rate Revenue (w/ customer growth)</b>		<b>\$ 10,011,784</b>	<b>\$ 10,384,411</b>	<b>\$ 10,695,532</b>	<b>\$ 11,016,000</b>	<b>\$ 11,346,095</b>

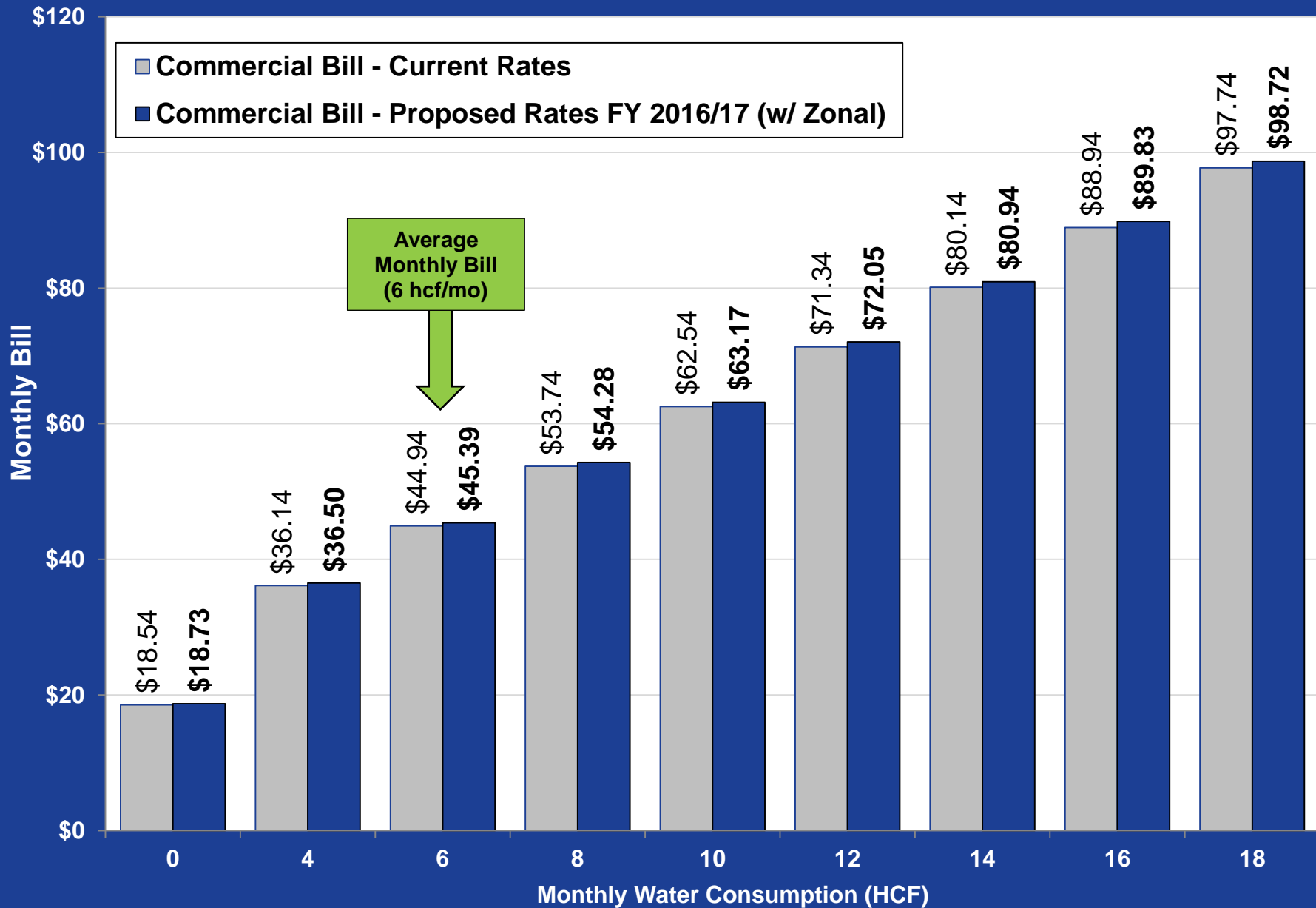
# Single-Family Residential Sewer Bill Comparison

## Current vs. Proposed Rates in FY 2016/17



## Commercial Sewer Bill Comparison

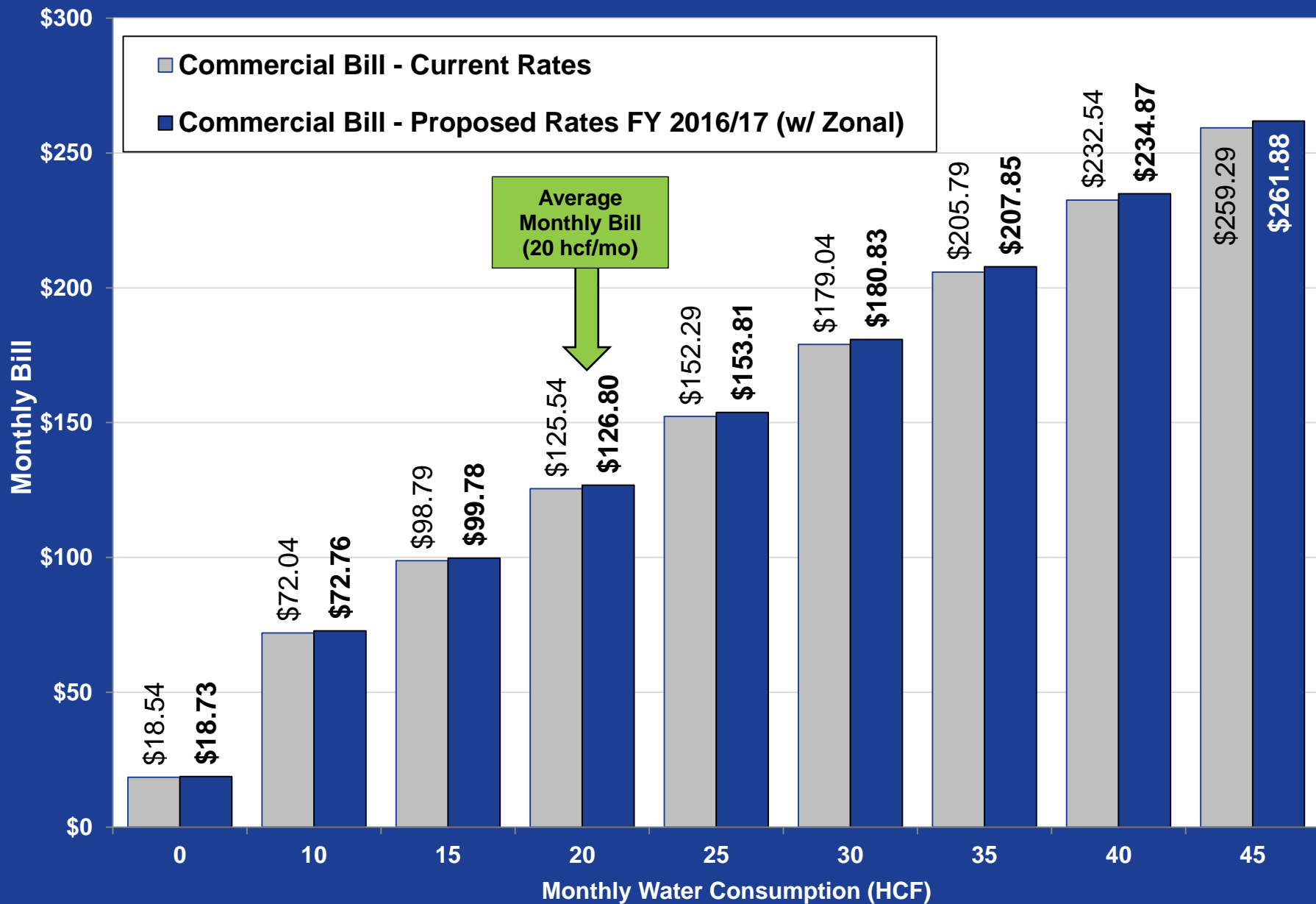
### Current vs. Proposed Rates in FY 2016/17 *(Commercial 2, 1 inch meter)*





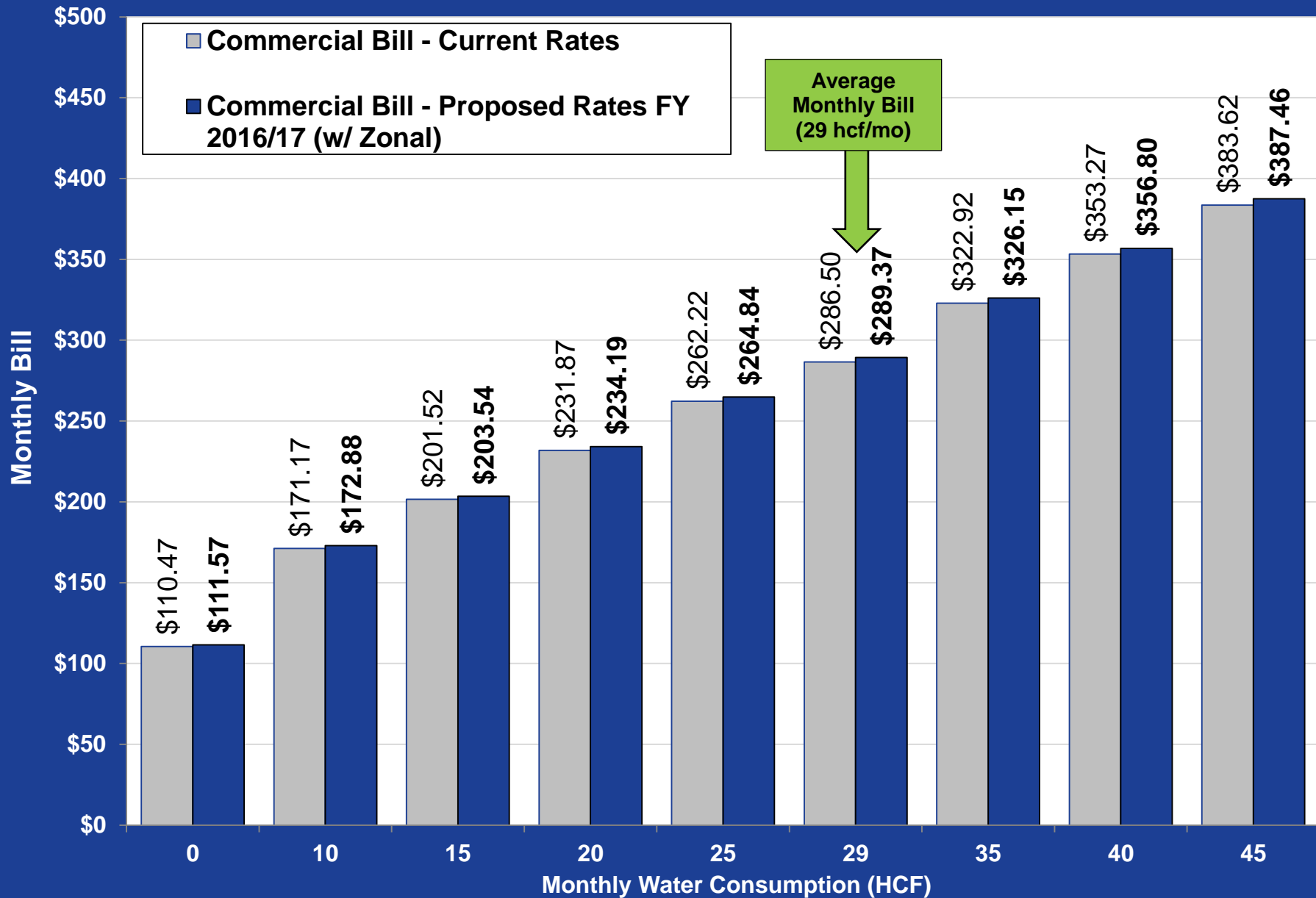
## Commercial Sewer Bill Comparison

### Current vs. Proposed Rates in FY 2016/17 *(Commercial 3, 1 inch meter)*

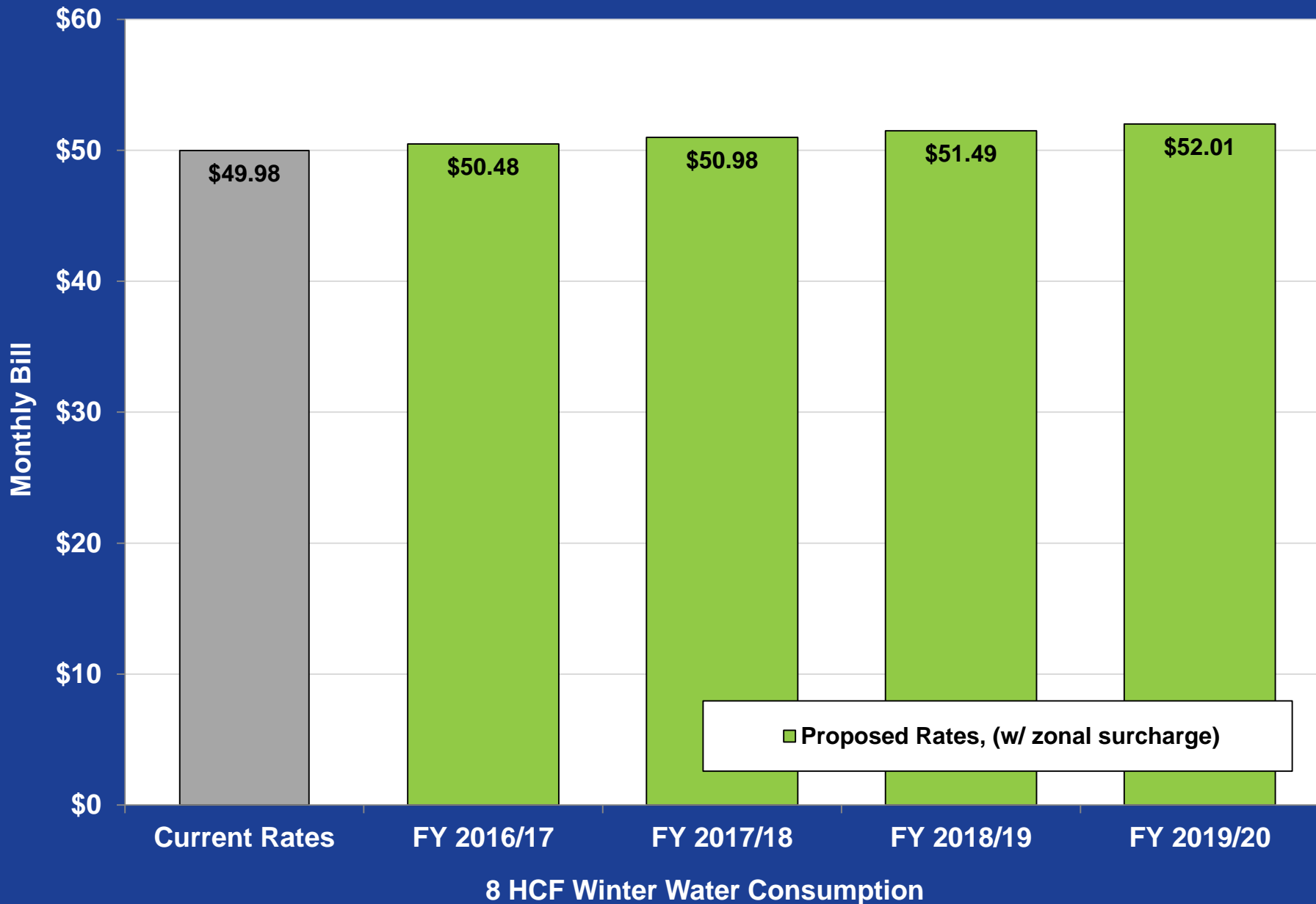


## Commercial Sewer Bill Comparison

### Current vs. Proposed Rates in FY 2016/17 *(Commercial 4, 2 inch meter)*



## Average Single-Family Residential Bill Comparison Fiscal Years 2015/16 through 2019/20



## APPENDIX D - ZONAL ELEVATION CHARGES ANALYSIS

CITY OF MORGAN HILL  
WATER AND WASTEWATER RATE STUDY  
Zonal Elevation Surcharges

Water Enterprise Calculation of Zonal Elevation Surcharges					
		Surcharge Costs			
Elevation Zones	Number of Customers	Annual Maintenance Costs	Annual Replacement of Facility Cost	Annual Power Costs	Total Plant Cost*
Zone 1 Lift Stations	2,630	\$ 265,000	\$ 139,350	\$ 127,020	\$ 531,370
Zone 2 Lift Stations	701	\$ 180,000	\$ 82,500	\$ 47,650	\$ 310,150
Zone 3 Lift Stations	115	\$ 55,000	\$ 21,429	\$ 6,100	\$ 82,529
<b>Total</b>	<b>3,446</b>	<b>\$ 500,000</b>	<b>\$ 243,279</b>	<b>\$ 180,770</b>	<b>\$ 924,049</b>

\*Total Plant Cost includes annual Power/Maint. Costs plus annual replacement costs based on a straight-line depreciation cost.

Water Enterprise Calculation of Zonal Elevation Surcharges, continued										
Elevation Zones	FIXED SURCHARGES (for Maintenance & Facility Replacement Costs)					VOLUMETRIC SURCHARGES (for Power Costs)				
	Customers	NON-CUMULATIVE Surcharges	CUMULATIVE Surcharges			Flows	NON-CUMULATIVE Surcharges	CUMULATIVE Surcharges		
	Number of Customers	Fixed Costs to Recover	Non-Cumulative Monthly Fixed Surcharge (\$/customer)	Cumulative Monthly Fixed Surcharge (\$/customer)	Revenue: Cumulative Monthly Fixed Surcharges	Annual Flow (hcf)	Variable Costs to Recover	Non-Cumulative Surcharges (\$/hcf)	Cumulative Surcharge (\$/hcf)	Revenue: Cumulative Surcharges
Zone 1 Lift Stations	2,630	\$ 404,350	\$9.78	<b>\$9.78</b>	\$ 308,601	717,830	\$ 127,020	\$0.14	<b>\$0.14</b>	\$ 98,378
Zone 2 Lift Stations	701	\$ 262,500	\$26.81	<b>\$36.59</b>	\$ 307,760	184,926	\$ 47,650	\$0.23	<b>\$0.37</b>	\$ 67,507
Zone 3 Lift Stations	115	\$ 76,429	\$55.38	<b>\$91.97</b>	\$ 126,917	24,064	\$ 6,100	\$0.25	<b>\$0.62</b>	\$ 14,885
<b>Total</b>	<b>3,446</b>	<b>\$ 743,279</b>	<b>--</b>	<b>--</b>	<b>\$ 743,279</b>	<b>926,821</b>	<b>\$ 180,770</b>	<b>--</b>	<b>--</b>	<b>\$ 180,770</b>

<b>Total Water Revenue from Zonal Elevation Surcharges</b>	<b>\$ 924,049</b>
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CITY OF MORGAN HILL  
WATER AND WASTEWATER RATE STUDY  
Zonal Elevation Surcharges

Wastewater Enterprise Calculation of Zonal Elevation Surcharges - Volumetric Surcharges					
		Surcharge Costs			
Elevation Zones	Number of Customers	Annual Power Costs	Annual Maintenance Costs	Annual Replacement of Facility Cost	Total Plant Cost*
Zone 1 Lift Stations	1,476	\$ 18,100	\$ 150,000	\$ 125,000	\$ 293,100
Zone 2 Lift Stations	515	\$ 6,500	\$ 45,000	\$ 43,125	\$ 94,625
Zone 3 Lift Stations	80	\$ 4,500	\$ 15,000	\$ 13,125	\$ 32,625
<b>Total</b>	<b>2,071</b>	<b>\$ 29,100</b>	<b>\$ 210,000</b>	<b>\$ 181,250</b>	<b>\$ 420,350</b>

\*Total Plant Cost includes annual Power/Maint. Costs plus annual replacement costs based on a straight-line depreciation cost.

Wastewater Enterprise Calculation of Zonal Elevation Surcharges - Volumetric Surcharges, <i>continued</i>										
Elevation Zones	FIXED SURCHARGES (for Maintenance & Facility Replacement Costs)					VOLUMETRIC SURCHARGES (for Power Costs)				
	Customers	NON-CUMULATIVE Surcharges		CUMULATIVE Surcharges		Flows	NON-CUMULATIVE Surcharges		CUMULATIVE Surcharges	
	Number of Customers	Fixed Costs to Recover	Non-Cumulative Monthly Fixed Surcharge (\$/customer)	Cumulative Monthly Fixed Surcharge (\$/customer)	Revenue: Cumulative Monthly Fixed Surcharges	Annual Flow (hcf)	Variable Costs to Recover	Non-Cumulative Surcharges (\$/hcf)	Cumulative Surcharge (\$/hcf)	Revenue: Cumulative Surcharges
Zone 1 Lift Stations	1,476	\$ 275,000	\$11.07	<b>\$11.07</b>	\$ 195,992	73,007	\$ 18,100	\$0.16	<b>\$0.16</b>	\$ 11,986
Zone 2 Lift Stations	515	\$ 88,125	\$12.34	<b>\$23.41</b>	\$ 144,661	30,864	\$ 6,500	\$0.17	<b>\$0.34</b>	\$ 10,453
Zone 3 Lift Stations	80	\$ 28,125	\$29.30	<b>\$52.70</b>	\$ 50,597	6,381	\$ 4,500	\$0.71	<b>\$1.04</b>	\$ 6,661
<b>Total</b>	<b>2,071</b>	<b>\$ 391,250</b>	--	--	<b>\$ 391,250</b>	<b>110,251</b>	<b>\$ 29,100</b>	--	--	<b>\$ 29,100</b>

<b>Total Water Revenue from Zonal Elevation Surcharges</b>	<b>\$ 420,350</b>
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CITY OF MORGAN HILL  
WATER AND WASTEWATER RATE STUDY  
Zonal Elevation Surcharges

*Summary of Alternatives #1 and #2:*

Water Enterprise Zonal Elevation Surcharges			Alternative #1	Alternative #2	
Elevation Zones	Number of Customers	Annual Flow (hcf)	Volumetric Surcharge (\$/hcf)	Monthly Fixed Surcharge (\$/customer)	Volumetric Surcharge (\$/hcf)
Zone 1	2,630	717,830	\$0.57	\$9.78	\$0.14
Zone 2	701	184,926	\$2.06	\$36.59	\$0.37
Zone 3	115	24,064	\$5.49	\$91.97	\$0.62
<b>Total</b>	<b>3,446</b>	<b>926,821</b>	--	--	--

Wastewater Enterprise Zonal Elevation Surcharges			Alternative #1	Alternative #2	
Elevation Zones	Number of Customers	Annual Flow (hcf)	Volumetric Surcharge (\$/hcf)	Monthly Fixed Surcharge (\$/customer)	Volumetric Surcharge (\$/hcf)
Zone 1	1,476	73,007	\$2.66	\$11.07	\$0.16
Zone 2	515	30,864	\$5.20	\$23.41	\$0.34
Zone 3	80	6,381	\$10.31	\$52.70	\$1.04
<b>Total</b>	<b>2,071</b>	<b>110,251</b>	--	--	--

**CITY OF MORGAN HILL**  
**WATER AND WASTEWATER RATE STUDY**  
**Five-Year Projection of Zone-Specific Costs**

***Water Enterprise Five-Year Cost Projection:***

Water Enterprise Calculation of Zonal Elevation Cost Increases over 5-year Period						
Cost Category	CPI Factor	2015/16	2016/17	2017/18	2018/19	2019/20
Power	4.00%	\$ 180,770	\$ 188,001	\$ 195,521	\$ 203,342	\$ 211,475
Maintenance	5.00%	\$ 500,000	\$ 525,000	\$ 551,250	\$ 578,813	\$ 607,753
Facility Replacement	3.52%	\$ 243,279	\$ 251,842	\$ 260,707	\$ 269,884	\$ 279,384
<b>Total</b>		<b>\$ 924,049</b>	<b>\$ 964,843</b>	<b>\$ 1,007,478</b>	<b>\$ 1,052,038</b>	<b>\$ 1,098,612</b>
<b>Overall Cost Increase</b>		--	4.4%	4.4%	4.4%	4.4%

***Wastewater Enterprise Five-Year Cost Projection:***

Water Enterprise Calculation of Zonal Elevation Cost Increases over 5-year Period						
Cost Category	CPI Factor	2015/16	2016/17	2017/18	2018/19	2019/20
Power	4.00%	\$ 29,100	\$ 30,264	\$ 31,475	\$ 32,734	\$ 34,043
Maintenance	5.00%	\$ 210,000	\$ 220,500	\$ 231,525	\$ 243,101	\$ 255,256
Facility Replacement	3.52%	\$ 181,250	\$ 187,630	\$ 194,235	\$ 201,072	\$ 208,149
<b>Total</b>		<b>\$ 420,350</b>	<b>\$ 438,394</b>	<b>\$ 457,234</b>	<b>\$ 476,906</b>	<b>\$ 497,449</b>
<b>Overall Cost Increase</b>		--	4.3%	4.3%	4.3%	4.3%

Inflation Factors Used in Rate Analysis & Applied to Zone Costs	
Energy/Power (1)	4.00%
Labor (1)	5.00%
Capital (2)	3.52%

(1) Inflation factor provided by City Staff.

(2) Inflation factor is the 10 year average change in the Construction Cost Index for January 2005 to January 2015. Source: Engineering News Record website (<http://enr.construction.com>).



CITY OF MORGAN HILL

WATER AND WASTEWATER RATE STUDY

5-Year Schedule of Zonal Elevation Surcharges

**Water Enterprise Zonal Elevation Surcharge Alternatives:**

Water Enterprise Zonal Elevation Surcharges: Alternative #1 - Volumetric Surcharges (\$/hcf)					
Elevation Zones	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
	% Increase <sup>1</sup>	4.4%	4.4%	4.4%	4.4%
Zone 1	\$0.57	\$0.60	\$0.62	\$0.65	\$0.68
Zone 2	\$2.06	\$2.15	\$2.25	\$2.35	\$2.45
Zone 3	\$5.49	\$5.73	\$5.99	\$6.25	\$6.53

1. the Annual % increase is due to cost inflation applied to zone-specific costs.

Water Enterprise Zonal Elevation Surcharges: Alternative #2 - Fixed and Volumetric Surcharges					
Elevation Zones	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
	% Increase <sup>1</sup>	4.4%	4.4%	4.4%	4.4%
Fixed Monthly Surcharges (\$/customer)					
Zone 1	\$9.78	\$10.21	\$10.66	\$11.13	\$11.63
Zone 2	\$36.59	\$38.20	\$39.89	\$41.65	\$43.50
Zone 3	\$91.97	\$96.03	\$100.27	\$104.71	\$109.34
Volumetric Surcharges (\$/hcf)					
Zone 1	\$0.14	\$0.14	\$0.15	\$0.16	\$0.16
Zone 2	\$0.37	\$0.38	\$0.40	\$0.42	\$0.43
Zone 3	\$0.62	\$0.65	\$0.67	\$0.70	\$0.74

1. the Annual % increase is due to cost inflation applied to zone-specific costs.

CITY OF MORGAN HILL

WATER AND WASTEWATER RATE STUDY

5-Year Schedule of Zonal Elevation Surcharges

**Wastewater Enterprise Zonal Elevation Surcharge Alternatives:**

Wastewater Enterprise Zonal Elevation Surcharges: Alternative #1 - Volumetric Surcharges (\$/hcf)					
Elevation Zones	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
	% Increase <sup>1</sup>	4.3%	4.3%	4.3%	4.3%
Zone 1	\$2.66	\$2.77	\$2.89	\$3.02	\$3.15
Zone 2	\$5.20	\$5.42	\$5.66	\$5.90	\$6.15
Zone 3	\$10.31	\$10.75	\$11.21	\$11.70	\$12.20

1. the Annual % increase is due to cost inflation applied to zone-specific charges.

Wastewater Enterprise Zonal Elevation Surcharges: Alternative #2 - Fixed and Volumetric Surcharges					
Elevation Zones	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
	% Increase <sup>1</sup>	4.3%	4.3%	4.3%	4.3%
Fixed Monthly Surcharges (\$/customer)					
Zone 1	\$11.07	\$11.54	\$12.04	\$12.55	\$13.10
Zone 2	\$23.41	\$24.41	\$25.46	\$26.56	\$27.70
Zone 3	\$52.70	\$54.97	\$57.33	\$59.80	\$62.37
Volumetric Surcharges (\$/hcf)					
Zone 1	\$0.16	\$0.17	\$0.18	\$0.19	\$0.19
Zone 2	\$0.34	\$0.35	\$0.37	\$0.38	\$0.40
Zone 3	\$1.04	\$1.09	\$1.14	\$1.18	\$1.24

1. the Annual % increase is due to cost inflation applied to zone-specific charges.